METHOD OF INVESTIGATION

Soil Boring Installations

On July 21, 1992, four (4) soil borings were installed to collect soil samples above water table conditions. Figure 2 shows the location of all monitor wells and soil borings installed at the site. The soil borings were installed utilizing a three (3) inch diameter bucket auger to depths which ranged from six (6) to seven (7) feet below land surface. Water table conditions during this investigation were encountered at approximately seven (7) feet below land surface. The soil borings were installed on July 21, 1992 and properly plugged and abandoned on July 21, 1992.

All augers utilized in soil boring installations were decontaminated and cleaned prior to each drilling activity. The complete geologic logs of all soil borings installed are contained in Appendix A.

METHOD OF SAMPLING

Soil Sample Collection

Soil samples were collected utilizing Shelby tube methods during the installation of soil borings SB6, SB7 and SB9 at depths ranging from five (5) to seven (7) feet below land surface. The soil samples collected from the soil borings were properly containerized, labeled, chilled and transported to Environmental Laboratories, Inc. in Baton Rouge, Louisiana for analysis of Total Petroleum Hydrocarbons Diesel (TPH-D) by The California Board of Health Services Method. Analytical results of collected soil samples are provided in Appendix B.

All soil samples were visually screened during soil boring installations. Continuous soil samples collected were placed in plastic zip-loc bags for analysis of volatile organic compounds by a portable HNU photo-ionization detector (PID). Results of PID readings for soil samples collected during drilling operations are contained in Table 1.

RESULTS OF ANALYSES

Figure 3 is a concentration contour map of the TPH-D concentrations at a depth between five (5) and seven (7) feet below land surface. As shown in the figure, the highest soil concentration occurred north and northeast of the former underground storage tanks in soil borings SB3, SB5 and monitor well MW3. Soil borings (SB6, SB7, SB8 and SB9) installed on July 21, 1992, located around the perimeter of the contaminated area contain TPH-D concentrations below the respective detection limit for the TPH-D compounds (Figure 3). Laboratory analytical results and chain-of-custody forms of collected soil samples are provided in Appendix B.

CONCLUSIONS

Data collected during this investigation and previous investigations at the Conco Food Distributors facility indicates that TPH-D concentrations have impacted the soil conditions at the site. The highest soil contamination is located to the north and northeast of the former underground storage tanks and former fuel island at a depth between five (5) and seven (7) feet below land surface. The horizontal extent of soil contamination has been defined during this investigation.

Groundwater flow calculations remains consistent with previous determinations. Groundwater within this shallow water bearing unit is flowing in a northeast direction. Data collected during the April 24, 1992 investigation, indicated no TPH-D concentration in the groundwater. The source of contamination at this site appears to have originated from the former underground storage tanks and possibly a product line leak.

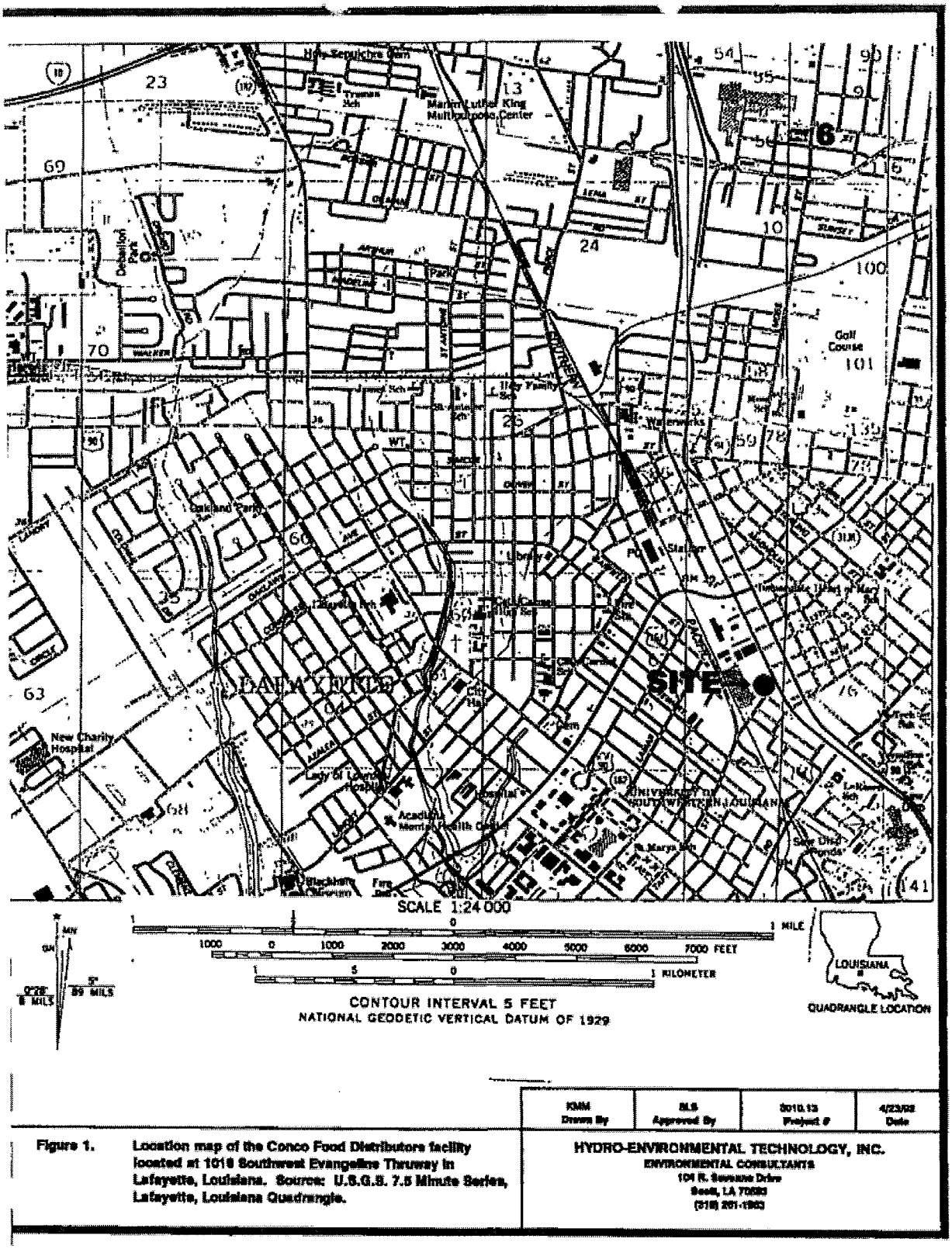
This report is based on laboratory data collected from February 25, 1992 to July 30, 1992 and on information received from the client and other responsible parties. All conclusions and recommendations are based on available information cited herein, and should be reviewed within this context. Should conditions at the site in question change, or additional information become available, especially with regard to prior site conditions, it may be necessary to modify these conclusions and recommendations accordingly.

RECOMMENDATIONS

In order to restore site conditions, a Corrective Action Plan (CAP) should be formulated to address site soil and groundwater conditions. This CAP should include but is not limited to:

1. A remedial soil technology that has the capability of correcting site conditions by in-situ methods.
2. A program to monitor groundwater on a quarterly basis to ensure no impacts to the shallow water bearing unit.

FIGURES



KMM	MLS	3010.13	4/23/03
Drawn By	Approved By	Project #	Date

Figure 1. Location map of the Conco Food Distributors facility located at 1018 Southwest Evangeline Thruway in Lafayette, Louisiana. Source: U.S.G.S. 7.5 Minute Series, Lafayette, Louisiana Quadrangle.

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
104 R. Suzanne Drive
Scott, LA 70583
(318) 261-1903

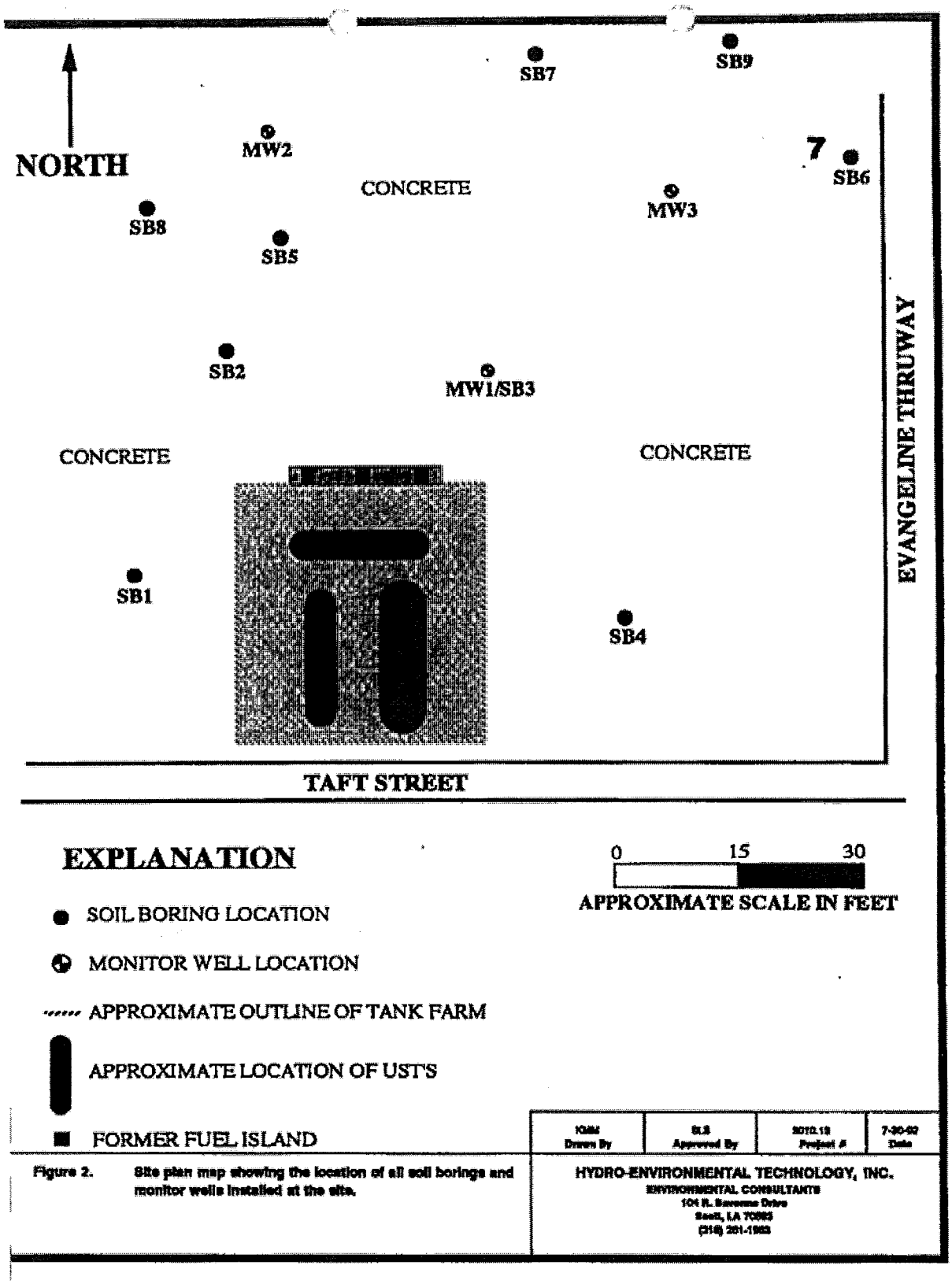


Figure 2. Site plan map showing the location of all soil borings and monitor wells installed at the site.

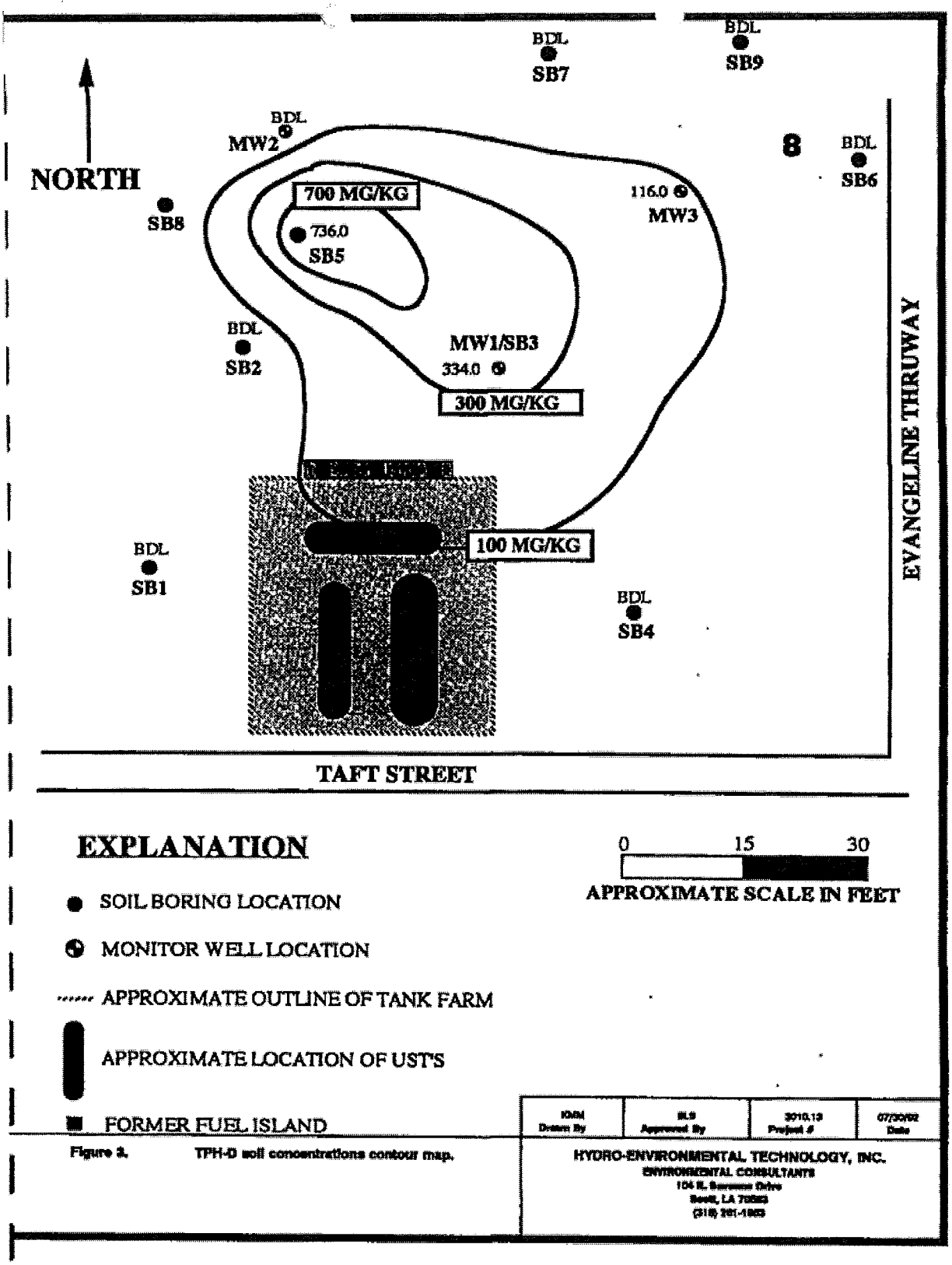


Figure 3. TPH-D soil concentrations contour map.

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS

TABLE

HNu PHOTO-IONIZATION DETECTOR READINGS
CONCO FOOD DISTRIBUTORS
Lafayette, LA
HET Project #3010.13

Table 1

Boring/Monitor Well	Depth (feet)	Readings (ppm)
SB6	0 - 2	0
	2 - 4	5
	4 - 6	0
SB7	0 - 2	0
	2 - 4	10
	4 - 6	0
SB8	0 - 2	0
	2 - 4	0
	4 - 6	0
SB9	0 - 2	0
	2 - 4	0
	4 - 6	0

APPENDIX A

GEOLOGIC LOGS

GEOLOGICAL BORING LOG

BORING	PROJECT	PROJECT #	LOCATION	DATE
SB6	CONCO FOODS	3010.13	LAFAYETTE, LA	7/21/92

TOTAL DEPTH	BOREHOLE DIAMETER	SCREEN DIAMETER, SLOT SIZE & LENGTH	CASING DIAMETER & LENGTH	MATERIAL
6.5 FEET	3 INCHES	N/A	N/A	N/A

DRILLER	ELEVATION	STATIC H_2O LEVEL
KEITH MONTERO HYDRO-ENVIRONMENTAL TECHNOLOGY,INC.	≈ 30 FEET	≈ 6.5 FEET

DEPTH BELOW LAND SURFACE (FEET)	LITHOLOGIC DESCRIPTION	NUMBER OF SAMPLES	COMMENTS
0 - 0.5	CONCRETE		
0.5 - 1.5	TOP SOIL - WITH BLACK ORGANIC SOIL, LOW DENSITY, LOW MOISTURE.		
1.5 - 3.5	CLAY - TAN TO BROWN, MODERATE DENSITY, LOW TO MODERATE MOISTURE.		
3.5 - 6.5	SILTY CLAY - BROWN TO TAN, MODERATE DENSITY, MODERATE TO HIGH MOISTURE.	[redacted]	SAMPLED @ 5.5 TO 6.5 FEET.

GEOLOGICAL BORING LOG

BORING	PROJECT	PROJECT #	LOCATION	DATE
SB7	CONCO FOODS	3010.13	LAFAYETTE, LA	7/21/92

TOTAL DEPTH	BOREHOLE DIAMETER	SCREEN DIAMETER, SLOT SIZE & LENGTH	CASING DIAMETER & LENGTH	MATERIAL
6.5 FEET	3 INCHES	N/A	N/A	N/A

DRILLER	ELEVATION	STATIC H_2O LEVEL
KEITH MONTERO HYDRO-ENVIRONMENTAL TECHNOLOGY,INC.	≈ 30 FEET	≈ 6.5 FEET

DEPTH BELOW LAND SURFACE (FEET)	LITHOLOGIC DESCRIPTION	NUMBER OF SAMPLES	COMMENTS
0 - 0.5	CONCRETE		
0.5 - 2	TOP SOIL - WITH BLACK ORGANIC SOIL AND FILL MATERIAL, LOW DENSITY, LOW MOISTURE.		
2 - 5	CLAY - TAN TO BROWN, MODERATE DENSITY, LOW TO MODERATE MOISTURE.		
5 - 6.5	SILTY CLAY - TAN, MODERATE DENSITY, MODERATE TO HIGH MOISTURE.	[redacted]	SAMPLED @ 5.5 TO 6.5 FEET.

GEOLOGICAL BORING LOG

BORING	PROJECT	PROJECT #	LOCATION	DATE
SB8	CONCO FOODS	3010.13	LAFAYETTE, LA	7/21/92

TOTAL DEPTH	BOREHOLE DIAMETER	SCREEN DIAMETER, SLOT SIZE & LENGTH	CASING DIAMETER & LENGTH	MATERIAL
6.5 FEET	3 INCHES	N/A	N/A	N/A

DRILLER	ELEVATION	STATIC H_2O LEVEL
KEITH MONTERO HYDRO-ENVIRONMENTAL TECHNOLOGY,INC.	≈ 30 FEET	≈ 6.3 FEET

DEPTH BELOW LAND SURFACE (FEET)	LITHOLOGIC DESCRIPTION	NUMBER OF SAMPLES	COMMENTS
0 - 0.5	CONCRETE		
0.5 - 2.5	TOP SOIL - BLACK WITH ORGANICS, LOW DENSITY, LOW TO MODERATE MOISTURE.		
2.5 - 5	CLAY - GRAY TO TAN, MODERATE DENSITY, MODERATE MOISTURE.		
5 - 6.5	SILTY CLAY - TAN TO BROWN, MODERATE TO HIGH DENSITY, MODERATE TO HIGH MOISTURE.		

GEOLOGICAL BORING LOG

BORING	PROJECT	PROJECT #	LOCATION	DATE
SB9	CONCO FOODS	3010.13	LAFAYETTE, LA	7/21/92

TOTAL DEPTH	BOREHOLE DIAMETER	SCREEN DIAMETER, SLOT SIZE & LENGTH	CASING DIAMETER & LENGTH	MATERIAL
6 FEET	3 INCHES	N/A	N/A	N/A

DRILLER	ELEVATION	STATIC H_2O LEVEL
KEITH MONTERO HYDRO-ENVIRONMENTAL TECHNOLOGY,INC.	≈ 30 FEET	≈ 6 FEET

DEPTH BELOW LAND SURFACE (FEET)	LITHOLOGIC DESCRIPTION	NUMBER OF SAMPLES	COMMENTS
0 - 0.5	CONCRETE		
0.5 - 2	TOP SOIL - WITH FILL MATERIAL, SAND AND BLACK ORGANICS, LOW DENSITY, LOW MOISTURE.		
2 - 5	CLAY - TAN TO BROWN, MODERATE DENSITY, MODERATE TO HIGH MOISTURE.		
5 - 6	SILTY CLAY - TAN TO BROWN, MODERATE DENSITY, HIGH MOISTURE.	[redacted]	SAMPLED @ 5 TO 6 FEET.

APPENDIX B

LABORATORY ANALYSES

environmental laboratories, incorporated
9425 Lindale Avenue, Suite A, Baton Rouge, LA, 70815 (504) 926-2288 07/24/92

ELI Analysis No. P207459-1

Client: Service Distributing, Inc.
205 Monroe Street
Lafayette, LA 70501

Attn: John Wallace

Project Name: Conco Foods / Lafayette, LA

Project No: 3010.13

Sample ID: SB-6 (5.5'-6.5')

Sample Matrix: Soil

Sampled By: K. Montero / Hydro-Environmental Technology, Inc.

Date Collected: 07/21/92 @ 9:00AM

Parameter	Concentration (MG/KG)	Detection Limit (MG/KG)
Total Petroleum Hydrocarbons (D)	BDL	10

*METHOD: Modified California Dept. of Health Service Method

Date/Time Analyzed: 07/23/92 @ 3:16AM

BDL = Below Detection Limits

ssurance
ontrol

John D. Trahan

environmental laboratories, incorporated
9425 Lindale Avenue, Suite A, Baton Rouge, LA, 70815 (504) 926-2288

07/24/92

ELI Analysis No. P207459-2

Client: Service Distributing, Inc.
205 Monroe Street
Lafayette, LA 70501

Attn: John Wallace

Project Name: Conco Foods / Lafayette, LA

Project No: 3010.13

Sample ID: SB-7 (5.5'-6.5')

Sample Matrix: Soil

Sampled By: K. Montero / Hydro-Environmental Technology, Inc.

Date Collected: 07/21/92 @ 9:45AM

Parameter	Concentration (MG/KG)	Detection Limit (MG/KG)
Total Petroleum Hydrocarbons (D)	BDL	10

*METHOD: Modified California Dept. of Health Service Method

Date/Time Analyzed: 07/23/92 @ 4:09AM

BDL = Below Detection Limits

ssurance
Control

John D. Trahan

environmental laboratories, incorporated
9425 Lindale Avenue, Suite A, Baton Rouge, LA. 70815 (504) 926-2288 07/24/92

ELI Analysis No. P207459-3

Client: Service Distributing, Inc.
205 Monroe Street
Lafayette, LA 70501

Attn: John Wallace

Project Name: Conco Foods / Lafayette, LA

Project No: 3010.13

Sample ID: SB-9 (5'-6')

Sample Matrix: Soil

Sampled By: K. Montero / Hydro-Environmental Technology, Inc.

Date Collected: 07/21/92 @ 12:50PM

Parameter	Concentration (MG/KG)	Detection Limit (MG/KG)
Total Petroleum Hydrocarbons (D)	BDL	10

*METHOD: Modified California Dept. of Health Service Method

Date/Time Analyzed: 07/23/92 @ 6:48AM

BDL = Below Detection Limits

Assurance Control

John D. Trahan

QA/QC DATA

SOIL MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

E.L.I. Sample No. P207459-02

Analysis Date: 07/23/92

ANALYSIS	BLANK CONCENTRATION	CONC. SPIKE ADDED (MG/KG)	SAMPLE RESULTS	DUPLICATE CONCENTRATION	RPD	CONCENTRATION MS	PERCENT RECOVERY
TOTAL PETROLEUM HYDROCARBONS (TPH) DIESEL	BDL	100	BDL	BDL	0	91	91

$$\text{MATRIX SPIKE RECOVERY (\%REC)} = \frac{\text{SPIKE SAMPLE RESULT (CONC. MS)} - \text{SAMPLE RESULT}}{\text{CONCENTRATION OF SPIKE ADDED}}$$

$$\text{RELATIVE PERCENT DIFFERENCE (RPD)} = \frac{\text{SAMPLE CONC.} - \text{DUPLICATE CONC.}}{(\text{SAMPLE CONC.} + \text{DUPLICATE CONC.}) / 2} \times 100$$

* UNITS = MG/KG

environmental laboratories, incorporated
9425 Lindale Avenue, Suite A, Baton Rouge, LA. 70815 (504) 926-2288

* SUMMARY REPORT *

Client: Service Distributing, Inc.
205 Monroe Street
Lafayette, LA 70501

Attn: John Wallace

Project Location: Conco Foods / Lafayette, LA

Project No: 3010.13

Sample Matrix: Soil

ELI No.	SAMPLE IDENTIFICATION	TPH DIESEL CONCENTRATION
P207459-1	SB-6 (5.5'-6.5')	BDL
P207459-2	SB-7 (5.5'-6.5')	BDL
P207459-3	SB-9 (5'-6')	BDL

BDL = Below Detection Limits

* All values have units of MG/KG

ssurance
Control

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
Environmental Consultants
P.O. Box 31203
Lafayette, LA 70593-1203
Phone (318) 261-1963 FAX (318) 233 - 0361

SAMPLE CHAIN OF CUSTODY RECORD

Laboratory: Environmental Laboratory
ATTN: John Treahan.

Project Name: Conco Foods
Project #: 3010.13
Project Location: Lafayette

Sample Collected By: Keith Morton
Company: (HET)
Date: 7/21/92

Sample I.D.	Type	Date/Time Sampled	Containers	Analysis Requested/ Method	Comments
SB6	SO	7/21/92 @ 9:00AM	(1) Qart Glass	TPH-D	5.5'-6.5'
SB7	SO	7/21/92 @ 9:45	(1) Qart Glass	TPH-D	5.5'-6.5'
SB9	SO	7/21/92 @ 12:50	(1) Qart Glass	TPH-D	6.0'-6.0'
		Bill Service Dist.			
				FILED THIS 16 DAY OF , 20 16 Deputy Clerk of Court	

Relinquished By: Keith Morton
Date/Time: 7/21/92 @ 1:45

Received By: Dan Bradley
Date/Time: 7/22/92 7:30AM

Relinquished By:
Date/Time:

Received By:
Date/Time:

Analysis Due: Verbal: Written:

COPY

STATE OF LOUISIANA

PARISH OF IBERIA

AFFIDAVIT

BE IT KNOWN, that on this 24th day of January, 2005, before me, the undersigned authority, a Notary Public in and for the State of Louisiana, personally came and appeared:

STEWART L. STOVER, JR.

who did, after being duly sworn under oath, depose and say as follows:

1. He is a citizen of the United States and a person of the full age majority domiciled in the State of Louisiana.

2. Mr. Stover is the principal Hydrogeologist with Hydro-Environmental Technology, Inc. (HET) located in Lafayette, Louisiana. He has seventeen (17) years of experience in conducting environmental assessment of soils and groundwater and remediation of soils and groundwater. Mr. Stover has been an expert witness in litigation involved in, but not limited to environmental site assessment, remediation, landfill assessment and design, hazardous waste, surface water impacts, and groundwater supplies. Currently, he conducts project oversight for HET in the states of Louisiana, Mississippi, Alabama, Texas, Wyoming, and Colorado. Mr. Stover's résumé is enclosed in Appendix A.

3. Conco Foods, Inc. (Consolidated Companies) and the Law Firm of Rabalais, Hanna, & Hebert has retained Mr. Stover to serve as an expert witness in the litigation verses Union Pacific Railroad Company. Based on past experience with State and Federal regulations, regulatory agencies, and data collected from the Consolidated Companies (CONCO) facility located at 1016 Southwest Evangeline Thruway in Lafayette, Louisiana since 1992, the following narrative serves as an opinion of site conditions. Appendix B contains reports and/or data utilized to develop these opinions.

4. HET is currently conducting an additional investigation at the CONCO facility in order to delineate the horizontal and vertical extent of contamination and to establish concentrations of the constituents of concern in accordance with the latest version of the Louisiana Department of Environmental Quality's (LDEQ) Risk Evaluation/Corrective Action Program (RECAP). The scope of work for the additional investigation was presented to the LDEQ in a plan dated March 15, 2004 and approved by the department in a letter dated June 11, 2004.

EXHIBIT 2

FILED THIS [illegible] DAY OF [illegible], 2016

Deputy Clerk of Court

EXHIBIT E

5. To date, eleven (11) soil borings (B1-B11) have been installed at the CONCO facility as part of the HET March 15, 2004 RECAP Investigation Proposal. Based on field observations made and laboratory analytical results from soil samples obtained during the installation of borings B1-B11, phase separated hydrocarbons in the soil and/or groundwater exist at the CONCO facility from north of the location of the former 35,000 barrel above-ground storage tank to the property boundary between CONCO and the former Georgia-Pacific facility which is now abandoned (B10, B11, B8). The extent of the identified phase separated hydrocarbons has yet to be defined, specifically west of boring B8 along the property boundary between the former Georgia Pacific facility and the CONCO property. Figure 1 attached illustrates the locations of borings B1-B11 installed in November 2004.

6. Based on data obtained during the September 20, 2004 groundwater sampling event, phase separated hydrocarbons were identified in monitor well MW5. In addition, groundwater flow appears to be moving in an eastern direction toward Evangeline Thruway and residential property located across the highway.

7. Based on groundwater flow directions, observations made during the installation of HET boring B8 identifies the presence of phase separated hydrocarbons up-gradient of the former 35,000 barrel AST and along the property boundary between Georgia Pacific and CONCO for a distance of approximately 130 feet between boring B8, boring B11, and monitor well MW3.

8. During the investigations of the CONCO property conducted by HET, the constituents of concern at the site appear to be hydrocarbon in nature, specifically total petroleum hydrocarbons, both diesel and oil range organics, and poly-aromatic hydrocarbons (PAH) only.

9. HET has also conducted a file review of documents at the LDEQ Baton Rouge Headquarters facility regarding the former Georgia Pacific facility adjacent to the CONCO facility to the north. Based on the documents reviewed, it appears that the investigation of a hydrocarbon release related to underground storage tanks (UST) identified a black, oily substance not related to the UST release. This oily substance was first discovered by CURA in 1992 as part of the Phase II Investigation of the Georgia Pacific facility.

10. In order to quantify the nature of the oily substance as phase separated hydrocarbons in CURA boring B3, CURA submitted a liquid sample of the substance for the analysis of RCRA metals and hydrocarbon fingerprint gas chromatograph scan, which included F001-F005 solvents, semi-volatile compounds, and any non-target compounds greater than 0.1 parts per million (ppm). Laboratory analytical results from the unknown liquid reported an acetone concentration of 406.92 ppm and a Methyl Isobutyl Ketone (MIBK) concentration of 527.41 ppm, along with concentrations of metals and hydrocarbon compounds.

11. Based on laboratory results from the liquid sample collected by CURA at the former Georgia Pacific facility and subsequent investigations conducted by Arcadis, Geraghty & Miller, it appears that non-hydrocarbon related constituents exist at the former Georgia Pacific facility. In addition, no evidence has been reviewed to indicate that the extent of acetone and/or MIBK contamination has been defined, specifically in the immediate vicinity and south of the former 30,000 barrel AST.

12. Subsequent sampling at the former Georgia Pacific facility by Arcadis, Geraghty & Miller included total petroleum hydrocarbons, both oil and diesel range organics, gasoline related constituents (BTEX), and semi-volatile compounds (PAH). However, the analytical program enacted by Arcadis, Geraghty & Miller did not include the analysis of volatile compounds, such as acetone and MIBK.

13. Based on a review of documents related to the former Georgia Pacific facility, it appears that the horizontal extent of hydrocarbon contamination has not been defined by Georgia Pacific and that a limited number of soil and groundwater samples have been collected in the vicinity of the former 30,000-barrel bulk fuel tank, specifically south of the former 30,000 barrel bulk fuel tank and along the property boundary to the south. Groundwater flow directions at the former Georgia Pacific facility depicted in reports prepared by Arcadis, Geraghty & Miller appear to be moving in an eastern direction toward Evangeline Thruway with some contours trending in a southern direction toward CONCO.

14. This report is based on field data collected and information received from the client, other parties associated with the client, and other responsible third parties during the period ranging from May 03, 1996 to January 24, 2005. All conclusions are based on available information cited herein, and should be reviewed within this context. Should conditions at the site in question change, or additional information becomes available, especially with regard to prior site condition, it may be necessary to modify these conclusions accordingly. The contents of this report are proprietary, and text, illustrations, and/or any other parts of this report may not be reproduced without the express written permission of Hydro-Environmental Technology, Inc.

STEWART L. STOVER, JR.

SWORN TO AND SUBSCRIBED before me this 24th day of January 2005.

NOTARY PUBLIC

Page 3 of 3

APPENDIX A

RESUME

STEWART L. STOVER, JR.
P.O. Box 80295
Lafayette, LA 70598-0295
Phone: (337) 261-1963
Fax: (337) 261-1953
E-mail: stewarts@hetinc.us

Résumé

EDUCATION	1984 - 1986	Northeast Louisiana University Master of Science in Geosciences
	1980 - 1984	Northeast Louisiana University Bachelor of Science in Geology
EMPLOYMENT HISTORY	1990 - Present Position	Principal Hydrogeologist/President Hydro-Environmental Technology, Inc. Lafayette, Louisiana
PROFESSIONAL REGISTRATIONS		Registered Professional Hydrogeologist Arkansas #842 Tennessee #751 Alabama #269 Mississippi #360 Texas #4300
QUALIFIED EXPERT		Hydrogeology Florida District Court Jacksonville, Florida Contaminant Hydrogeology State of Louisiana Federal Court State/District Court
PROFESSIONAL ASSOCIATIONS		National Water Well Association Association of Groundwater Scientists and Engineers Honor Society of Earth Scientists (Sigma Gamma Epsilon) American Water Resources Association American Association of Petroleum Geologists State of Louisiana Water Well Contractor #416

Selected List of Depositions and Testimonies of Stewart L. Stover, Jr.

Case	Date	Expertise
Lester Duhon et al. v. NPACT	1993	Geology, Contaminate Hydrogeology **media:** petroleum hydrocarbons
Freedom Fuel v. Phibro Marine	1993	Geology, Contaminate Hydrogeology **media:** petroleum hydrocarbons
Public Terminals v. Texaco et al.	1994	Geology, Contaminate Hydrogeology **media:** petroleum hydrocarbons; hazardous waste
BellSouth Telecommunications v. Hill City Oil Company	1995	Contaminate Hydrogeology, Contamination Migration **media:** petroleum hydrocarbons (gasoline)
Plaintiffs v. St. Martin Oil and Gas Company	1995	Contaminate Hydrogeology **media:** petroleum hydrocarbons
Sabine Parish Landfill v. USA Waste	1998	Geology, Hydrogeology **media:** landfill design; assessment
Alice Voorhies v. Petro Rentals	1998	Contaminate Hydrogeology, **media:** petroleum hydrocarbons; hazardous waste
Lewis Company and Lewis v. Cenco Trucking	1998	Contaminate Hydrogeology, Hazardous waste Classifications **media:** hazardous waste

Selected List of Depositions and Testimonies of Stewart L. Stover, Jr. (continued)

J & R Systems, Inc. v. State of Louisiana	1999	Geology, Contaminate Hydrogeology media: commercial saltwater injection wells
Oil and Gas Tubulars, Inc. v. Marathon et al.	1999	Geology, Contaminate Hydrogeology, Naturally Occurring Radioactive Materials media: radioactive soils; petroleum hydrocarbons
Wayne Simoneaux et al. v. Amoco Production Company	1999-2000	Geology, Contaminate Hydrogeology media: petroleum hydrocarbons; saltwater injection wells
W.S. Farms, Inc. v. Rhone-Poulenc	2000-2004	Contaminate Hydrogeology, Surface Water Hydrology media: agriculture chemical
Stewart-Stirling One, LLC v. Tricon Global, et al.	2002	Contaminate Hydrogeology media: tetrachloroethane
CONCO Food Distributers, Inc. v. Union Pacific Railroad	2004	Contaminate Hydrogeology media: petroleum hydrocarbons, bunker fuel oil
Joe B. Clark v. Weyerhaeuser, Inc.	2004	Surface Water Hydrology media: wood products

Selected Recent Publications

Louisiana Statewide Water Management Plan Volume I - Identification and Use Assessment of Louisiana Water Resources; prepared for the Louisiana Groundwater Management Commission, June 2002.

Louisiana Statewide Water Management Plan Volume II - Planning and Management Issues for Louisiana Water Resources; prepared for the Louisiana Groundwater Management Commission, December 2002.

APPENDIX B

FIGURE 1

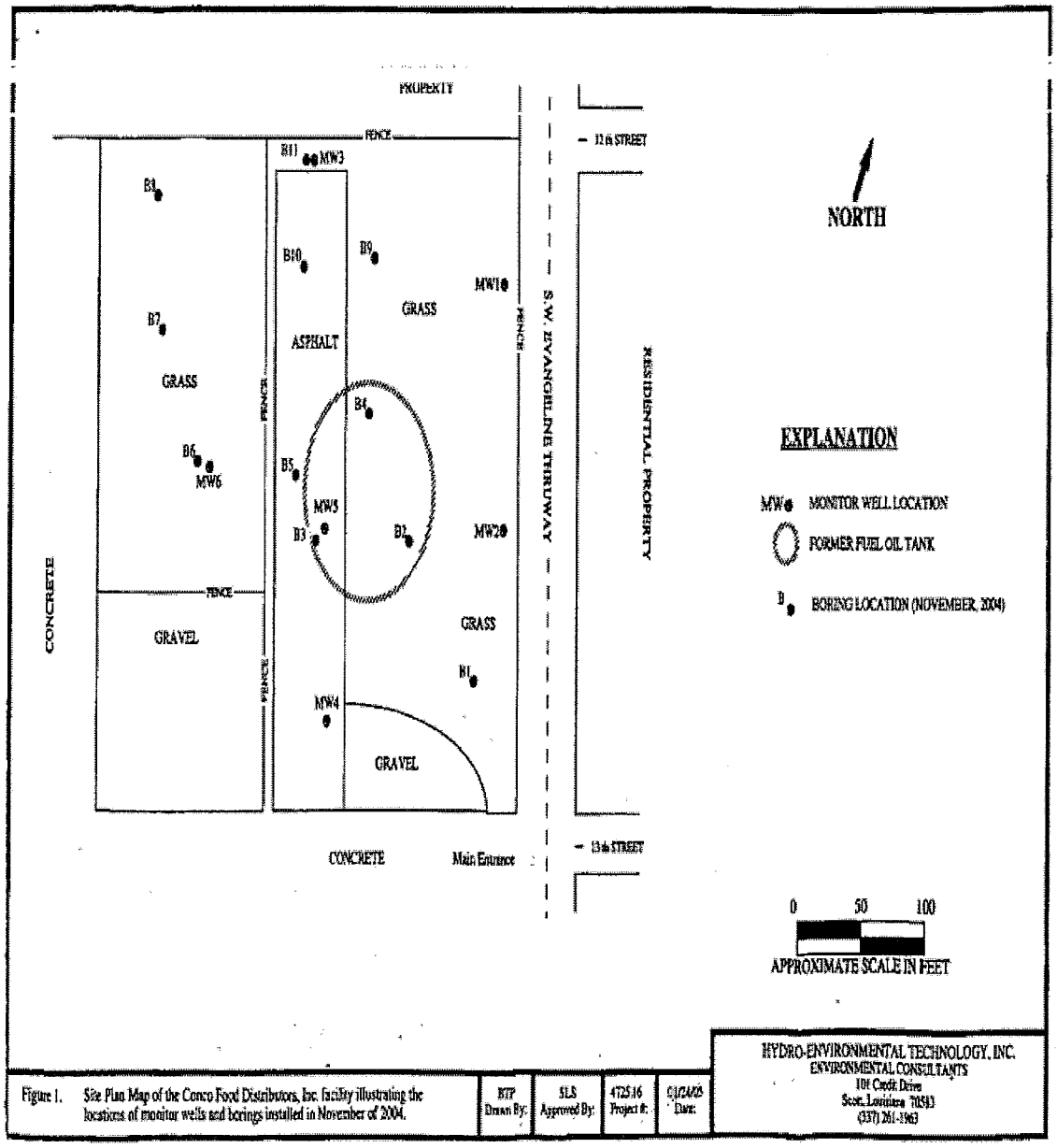


Figure 1. Site Plan Map of the Conco Food Distributors, Inc. facility illustrating the locations of monitor wells and borings installed in November of 2004.

BTP	SLS	4725.16	01/24/05
Drawn By:	Approved By:	Project #:	Date:

Case 6:98-cv-01804-MLH Document 112-2 Filed 01/27/05 Page 10 of 10 PageID #: 673

RABALAIS, HANNA & HEBERT
A Limited Liability Company
Attorneys and Counselors at Law

701 Rubley Drive, Suite 210
Lafayette, Louisiana 70503

Telephone (337) 981-0309
FAX (337) 981-0905
Writer's E-Mail: phanna@rhhset.com

STEVEN B. RABALAIS
PATRICK J. HANNA*
CHRISTOPHER H. HEBERT

*Certified
TED W. DAVIS
ELVIN A. EIDEN

also admitted in Texas

RECEIVED
JAN 27 2005
FOR FILING IN THE WESTERN DISTRICT OF LOUISIANA
LAFAYETTE, LOUISIANA

January 27, 2005

VIA HAND DELIVERY, LAFAYETTE LA
0014
Clerk of Court
United States District Court
Lafayette LA

RE: Consolidated Companies, Inc. v.
Union Pacific Railroad Co., et al
CA No. 98-1804, Judge ~~Doherty~~, Mag. ~~Hill~~
HICKS PAYNE

Dear Sir or Madam:

Enclosed please find Plaintiff's Exhibit 2, the original Affidavit of Stewart L. Stover, Jr., attached to Memorandum in Opposition to Motion for Summary Judgment and Response to Statement of Undisputed Material Facts with reference to the above entitled cause. Please substitute the original document for the copy which was originally filed January 24, 2005. Should you have any questions, please do not hesitate to call.

With kindest regards, I remain

Sincerely yours,

PATRICK J. HANNA

ch/012705coe-substitute affidavit /encl.
c: Honorable Judge Maurice S. Hicks, Jr. w/encl.
Mr. Steven J. Levine/Mr. Patrick O'Hara w/o encl.
Ms. Suzanne Y. Echevarria w/o encl.

FILED THIS 1
DAY OF Feb, 2016
Deputy Clerk of Court

Soil and Groundwater Investigation Work Plan

RECEIVED
FEB 2 7 2007
DEPT. OF ENV. QUALITY

Former Railroad Facility
Lafayette, Louisiana
Lafayette Parish

Remediation Services Division
Manager:
Team Leader:
AI #:
TEMPO Task #:
Desk Copy File Room:

February 2007

Prepared for:

The GPL Group
P.O. Box 3668
Lafayette, Louisiana 70502-3668

Prepared by:
Sigma Environmental, Inc.
10305 Airline Highway
Baton Rouge, Louisiana 70816
225-298-0800

EXHIBIT
F
FILED THIS
DAY OF , 20
Deputy Clerk of Court

Soil and Groundwater Investigation
Work Plan

Former Railroad Facility
Lafayette, Louisiana
Lafayette Parish

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1.0 INTRODUCTION

This site investigation work plan for the former Railroad (FRR) Facility located in Lafayette, Louisiana has been developed to:

- Locate, inspect and sample historical building foundations, pits, piping, underground utilities and backfilled drainage features,
- Locate, inspect and sample former water supply wells,
- Assess the presence of contamination (metals, petroleum hydrocarbons and organic compounds) in soil and groundwater, and
- Determine the extent of phase-separate hydrocarbons (PSH).

The work plan has been prepared in accordance with the Louisiana Department of Environmental Quality Risk Evaluation Corrective Action Program (LDEQ RECAP). The plan contains sections addressing investigation objectives, procedures, sample type/location and laboratory analysis. The plan also discusses sampling equipment, shipping requirements, sample custody/documentation and decontamination.

1.1 Site Description and History

The FRR facility was initially developed for railroad operations in the 1890's and was utilized as such until the 1960's. During this time period, the FRR facility was developed in a fashion typical of railroad yards for that era and encompassed more than 40 acres. Historic site features included the following: two roundhouses, multiple machine shops, a power house, tanks, oil/water cranes, fuel oil storage/pipelines, an engine wash rack, inspection pits, water supply wells, and other miscellaneous railroad features.

The approximate boundaries of the FRR property are Jefferson Street to the north, SW Evangeline Thruway to the east, Taft Street to the south, and the main railroad tracks to the west. Immediately northwest of the FRR property are wood, coal and lumber yards associated with historical railroad activities. Although these locations are not segregated into separate areas for discussion, they have not been assessed to determine the affect of historical activities and are included in the investigative portion (Section 3.5) of the work plan.

A centrally located geographical coordinate for the property is 30°13'33.63" N latitude and -92°00'40.80" W longitude. The coordinate was obtained from aerial photography obtained in 2002 and geo-referenced for Geographical Information System (GIS) mapping. The Site Vicinty Map is included as Figure 1 and was developed using the United States Geological Survey (USGS) 7.5 minute Lafayette, LA Quadrangle Map (1983).

Upon termination of railroad activities, the property was subdivided and redeveloped into its current commercial configuration surrounded by commercial, light industrial and single family residential housing. Figure 2 shows the boundaries of properties created from the subdivision of the FRR facility.

A review of property utilization identified the following uses:

Far North Property

The eastern portion of this property is utilized for residential/commercial purposes and the western portion of this property (extending to the railroad tracks on the west) is undeveloped. This property extends from 6th/Lee Street on the south to Jefferson Street on the north.

Southern Pacific Transportation Company (Johnston Street Site)

This portion of the FRR property is undeveloped and extends from Johnston Street on the south to 6th/Lee Street on the north and from Chestnut Street on the east to the railroad tracks on the west.

John W. Stafford

This portion of the FRR property is currently an undeveloped vacant lot.

P.J.A. Properties, Inc. (Azar)

This portion of the FRR property is currently occupied by Meader's Kitchen Equipment, Thrifty Car Rental and Precision Tune.

Pacific Motor Transport (PMT) Facility

This portion of the FRR property is utilized for truck staging and is located at 810 SW Evangeline Thruway. The PMT property (LDEQ AI # 2156) extends from Johnston Street on the north to the Georgia Pacific property on the south and from SW Evangeline Thruway on the east to the railroad tracks on the west.

Georgia Pacific Site

This portion of the FRR property is vacant and located at 814 SW Evangeline Thruway. The Georgia Pacific Site extends from the PMT facility on the north to the Conco property on the south and from SW Evangeline Thruway on the east to the railroad tracks on the west.

Conco Food Distributors

This portion of the FRR property is utilized as a food distribution warehouse and is located at 1016 SW Evangeline Thruway. The Conco Facility extends from the Georgia Pacific Site on the north to Taft Street on the south and from SW Evangeline Thruway on the east to the railroad tracks on the west.

1.2 Potential Environmental Contamination Source Areas

Based on information obtained from referenced historic sources, numerous potential environmental contamination source areas associated with historical railroad activities have been identified. Potential environmental contamination source areas are summarized in Table 1, and historic site features are presented on Figure 3.

1.3 Environmental Contamination Issues

A review of historical records including insurance maps, aerial photography, and soil and groundwater investigation reports revealed the following environmental contamination issues (Newfields, 2004):

Southern Pacific Transportation Co. - Johnston Street Site

- A wood and earthen wastewater conveyance system (i.e., leachfield) is present that transported waste and industrial chemicals, including chlorinated solvents, off-site into a public right-of-way. This conveyance system is believed to have allowed waste to continually absorb into surrounding soils and migrate into the underlying groundwater.

- An environmental consultant working for the City of Lafayette concluded:

    - Soil and groundwater contamination is present on- and off-site,

    - Contamination likely resulted from utilization of the wooden drainage system, past spillage, drippage, and commercial activities.

  As a result of their investigation activities, the consultant recommended to "Formulate a site closure plan to remediate soil contamination along the length of the former wooden underground drain system in the northern portion of the property."

- Based on the results of subsequent investigation activities performed by Environmental Resources Management (ERM), on behalf of Union Pacific Railroad Company (Union Pacific), ERM concluded that surface soil, potential surface soil, subsurface soil, and groundwater (Category 3A) were impacted. In response to this conclusion, ERM recommended "No Further Action - At This Time".

PMT Facility

- Historic site information revealed fuel and metals contamination in soil and underlying groundwater.

- Visible staining, hydrocarbon odors, and PSH were observed in soils ranging from 2 to 15 feet below ground surface (ft bgs).

- Based on the results of investigation activities performed by ERM, on behalf of Union Pacific, ERM concluded that the site was contaminated with PSH.

Georgia Pacific Site

- Historic site information revealed fuel related contamination in soil and underlying groundwater.
- Visible staining was observed in soils and PSH was observed on the underlying groundwater.
- Based on the results of site investigation activities, the LDEQ concluded the following:
  - "There are significant levels of contamination present in the shallow groundwater not related to UST. The UST were removed and soils were over excavated. Any remaining UST contamination is insignificant compared to the unrelated contamination."
  - "Contaminant is believed to be lubricating oil & solvents released during a spill(s) from a railroad company that previously operated there."
- Based on site investigation information, Arcadis Geraghty & Miller concluded that corrective action was warranted.

Conco Food Distributors

- Historic site information revealed fuel contamination in soil and underlying groundwater.
- Visible staining was observed in soils and PSH was observed on the underlying groundwater.
- Based on site investigation information, Hydro-Environmental Technology, Inc. concluded the following:
  - The source of the release was the former 35,000-barrel bulk fuel storage tank utilized by the railroad.
  - The horizontal extent of the contamination has not been defined to the south, east, or west.
  - To achieve site clean-up, approximately 22,000 cubic yards of soil would require removal.

In 2004, Newfields implemented field investigation activities as part of the Preliminary Site Investigation to assess soil and groundwater conditions on:

- Subdivided FRR properties which had not been previously assessed,
- Conco Property, and
- Residential properties adjacent to the FRR facility.

Areas of investigation are presented on Figure 2. The results of this investigation are presented below (Newfields, 2004):

P.J.A. Properties, Inc. (Azar)

- Sample observations included soil samples saturated with diesel, soil samples with a slight to strong diesel/hydrocarbon odor, and a groundwater sample exhibiting a strong hydrocarbon odor.
- Volatile Organic Compound (VOC) constituent, Semi-Volatile Organic Compound (SVOC)/Polycyclic Aromatic Hydrocarbon (PAH) constituent, TPH, and Total Resource Conservation and Recovery Act (RCRA) Metal concentrations were detected in soil samples collected in the vicinity of the former roundhouse. Numerous SVOC/PAH constituents, TPH, and Total Lead concentrations were detected in excess of RECAP Screening Standards. The detected VOC constituent, SVOC/PAH constituent, TPH and elevated Total Lead concentrations are not naturally occurring and should not be present.
- Shallow groundwater underlying the subject property is generally flowing to the east-southeast. Therefore, contaminants that were released to soils and/or groundwater on the FRR facility would be expected to migrate to the east-southeast.
- VOC constituent, SVOC/PAH constituent, TPH, and Total and Dissolved RCRA Metal concentrations were detected in groundwater samples, with TPH, Total Arsenic, and Total Lead concentrations in excess of RECAP Screening Standards. The detected VOC constituent, SVOC/PAH constituent, and TPH concentrations are not naturally occurring and should not be present.

John W. Stafford

- PAH and Total RCRA Metal concentrations were detected in the soil sample collected in the vicinity of the former Paint and Plating Shops. The detected concentrations do not exceed the RECAP Screening Standard; however, the detected PAH concentrations are not naturally occurring and should not be present.
- The Total Lead concentration detected in the soil sample collected adjacent to the former water tower was significantly in excess of the RECAP Screening Standard.

- Total Xylenes and Dissolved RCRA Metal concentrations were detected in the groundwater sample collected in the vicinity of the former Paint and Plating Shops. The detected concentrations were not in excess of RECAP Screening Standards; however, the detected Total Xylenes concentration is not naturally occurring and should not be present.

Conco Food Distributors, Inc.

- Sample observations included soil samples with a slight to strong hydrocarbon odor, and a groundwater sample exhibiting a strong diesel/oil odor.

- VOC constituent, SVOC/PAH constituent, TPH, and Total RCRA Metal concentrations were detected in soil samples, with one Total Arsenic concentration and TPH concentrations in excess of RECAP Screening Standards. The detected VOC constituents, SVOC/PAH constituent, TPH and elevated Total Arsenic concentrations are not naturally occurring and should not be present.

- VOC constituent, SVOC/PAH constituent, TPH, and Dissolved RCRA Metal concentrations were detected in groundwater samples, with TPH concentrations in excess of RECAP Screening Standards. The detected SVOC/PAH constituent and TPH concentrations are not naturally occurring and should not be present.

Joann Gant Johnson

- Methyl Ethyl Ketone and Total RCRA Metal concentrations were detected in the soil sample, with none of the detected concentrations in excess of RECAP Screening Standards. The detected Methyl Ethyl Ketone concentration is not naturally occurring and should not be present.

- Total Xylenes and Dissolved RCRA Metal concentrations were detected in the groundwater sample, with none of the detected concentrations in excess of RECAP Screening Standards. The detected Total Xylenes concentration is not naturally occurring and should not be present.

Karl R. Granger

- Total RCRA Metal concentrations were detected in the soil sample, with none of the detected concentrations in excess of RECAP Screening Standards.

- Total Xylenes and Dissolved RCRA Metal concentrations were detected in the groundwater sample, with none of the detected concentrations in excess of RECAP Screening Standards. The detected Total Xylenes concentration is not naturally occurring and should not be present.

Based on the historic use of the FRR property, the length of time the property was utilized as a railroad maintenance facility (approximately 70 years) and public information available for the site, significant environmental contamination issues are

present at this site. However, no comprehensive assessment of the FRR property has been implemented.

1.4 Review of Historic Site Investigations

Since the discontinuation of railroad activities, several localized site investigation and groundwater monitoring activities have been completed for individual properties which were once a part of the FRR facility. Review of the site investigation information revealed inconsistencies and problems with methodologies, which led to potentially erroneous conclusions. In 2004, Newfields prepared the *Preliminary Site Investigation Report* which included the following summary of technical issues associated with historical site investigations (Newfields, 2004).

Southern Pacific Transportation Co. - Johnston Street Site

- Follow-up site investigation activities conducted by ERM, on behalf of Union Pacific, included sample locations and intervals that did not adequately address previously detected contamination.
- Investigation activities performed by ERM appear to have been designed to specifically not encounter or document contaminants.
- Chlorinated solvents pose a threat to the underlying Chicot Aquifer and should be thoroughly assessed to ensure that the public drinking water source is not in danger.
- Analytical laboratory results clearly demonstrate that soils and groundwater have been impacted with VOCs (including chlorinated solvents), TPH, SVOCs, and Metals. Based on this information, contaminants (including chlorinated solvents) may have migrated off-site and potentially affected off-site soil and groundwater quality.
- It is possible that dissolved-phase contaminants could migrate onto the residential properties located to the east of Chestnut Street.
- An investigation with an appropriate analytical laboratory suite has never been performed to assess the Dynamite Storage Area or the Polychlorinated Biphenyls (PCB)-containing transformers.

PMT Facility

- Soil borings and/or monitor well locations were modified in the field on numerous occasions when PSH was encountered within the initial location. Some locations were modified by as much as 90 feet until "product-free" observations were recorded. Upon achieving the "product-free" observation, the new well would be set and the location would be recorded. The text of the report did not provide any description regarding this site investigation technique.

- PSH appears to be located within shallow soils and groundwater throughout the subject property. It appears that ERM's field investigation technique failed to assess the areas of highest contamination (i.e., the relocation of investigation locations after encountering PSH and monitor wells with submerged screened intervals). Based on this manipulated investigation program, ERM continually states that PSH was not detected, even though their own field notes, presented within their reports, provide information to the contrary. In addition, the risk evaluation has not been prepared based on actual site conditions, since the areas of highest contamination have been avoided.

- Monitor wells PMT- 19 and PMT-20 were installed on the eastern portion of the site at the hydraulically down-gradient property boundary. The wells were reportedly plugged and abandoned due to the wells yielding insufficient groundwater for sampling purposes. However, the text of the report failed to state that when monitor well PMT- 19 was originally gauged, PSH was documented within the well and nine feet of groundwater had recharged into the well. Based on the location of the well, PSH documented within the well, and nine feet of groundwater within this well, PMT-19 should never have been plugged and abandoned.

- ERM collected "background" soil samples from the adjacent north property that was historically utilized for railroad operations. Therefore, the detected concentrations are not likely to represent "background" conditions. Background samples should be collected from an area where soils are unlikely to have been affected by historic railroad operations.

- The text of the ERM report failed to comment on the VOC and SVOC tentatively identified compounds (TICs) detected in soil and groundwater samples; however, analytical laboratory data was provided in an attached appendix.

- ERM field notes document the possible presence of dense non-aqueous phase liquid (DNAPL, i.e., chlorinated solvents); however, the text of the report does not provide a discussion of this observation. Based on the top of the Chicot Aquifer being located approximately 37 feet bgs, if chlorinated solvents are present, these contaminants could migrate through the soil column and impact the groundwater supply.

Georgia Pacific Site

- Contamination on this portion of the subject property originates primarily from historic railroad activities that included the bulk storage of fuel.

- Contaminant concentrations have been continuously documented within a monitor well located on the property boundary. Therefore, contaminants may have migrated off-site onto residential properties.

- Field procedures implemented during installation of off-site investigation locations RB-6 and RB-7 were deficient, and figures included within the Final

Revised Risk Based Closure Report present misleading and incorrect analytical laboratory findings.

- Based on the heterogeneous lithology underlying the subject property area (mixture of clays, silts, and sands), a preferential migration pathway may be present and one sample location does not provide adequate coverage to confirm that no off-site migration of contamination has occurred.

Conco Food Distributors

- Contamination on this portion of the subject property originates primarily from historic railroad activities that included the bulk storage of fuel.

- Review of analytical laboratory results indicate that the horizontal extent of contamination has not been delineated to the south, east, or west. Therefore, it is possible that contaminants may have migrated off-site onto residential properties.

Since the *Preliminary Site Investigation Report*, the following investigative and monitoring activities have been completed revealing additional technical issues associated with site characterization activities and the continued presence of contaminated soil and groundwater in excess of RECAP screening standards.

PMT Facility

- Groundwater monitoring in 2004 and 2005 produced samples with petroleum hydrocarbon odors and TPH-G, TPH-D, TPH-O, arsenic and 2-methylnaphthalene concentrations in excess of RECAP screening standards. In addition, Trichloroethene was detected in eight of the 12 monitor wells with concentrations in five monitor wells in excess of the RECAP screening standards. Other PAHs were detected in the shallow groundwater zone but at concentrations below the RECAP screening standards. However, PAHs are not naturally occurring and should not be present. An assessment of PSH continues to be impossible since many of the wells are constructed with submerged screened intervals (Newfields, 2004A; Newfields 2005A).

- In November 2004, a Supplemental Site Investigation was conducted to further evaluate site conditions including the extent of lead affected soil, an evaluation of hydrocarbon affected soil with concentrations in excess of the RECAP aesthetic standard and delineation of PSH. During the field investigation, field procedures varied from the approved work plan, conflicting observations regarding the presence of PSH occurred, soil samples were not collected from what appeared to be the zones of greatest contamination for site characterization, and a LDEQ request for additional samples of visually contaminated soil for site characterization was refused by Union Pacific (Newfields, 2005).

- In October 2006, soil remediation of an area containing lead concentrations in excess of RECAP MO-2 RS (ERM, 2006) was implemented. During excavation activities, PSH was encountered at multiple locations within the

excavation. Laboratory analysis of a sample of excavated material and confirmation samples identified benzene, methylene chloride, TPH-G, TPH-D, TPH-O, antimony, arsenic, copper, lead, nickel and thallium concentrations exceeded RECAP screening standards. TPH-G was a constituent of concern in historical underground storage tank remediation activities but has not been an analyte in any of the subsequent investigations at the PMT Facility. Antimony, copper, nickel and thallium have not previously been identified as constituents of concern for the site and have been added to the analyte list in Section 4.0.

Conco Food Distributors, Inc.

- Shallow groundwater monitoring in 2005 and 2006 has revealed the presence of PSH in the central portion of the site. In addition, TPH-D and TPH-O is consistently detected above RECAP screening standards. PAHs are also consistently detected in shallow groundwater but at concentrations below the RECAP screening standards. The extent of the hydrocarbon plume remains undefined to the north, south and east. Thus, contaminated groundwater appears to extend northward onto Georgia Pacific property, eastward beneath SW Evangeline Thruway and southward into the southern portion of the Conco property (HET, 2006).

As a result of the numerous technical issues associated with the historic environmental data, the piecemeal nature of historic environmental investigations and the potentially erroneous conclusions regarding current site conditions, the existing environmental dataset appears to be unreliable. Thus, a comprehensive site investigation of the FRR property is presented in this work plan

1.5 Objective and Scope

The objective of the site investigation is to complete a comprehensive assessment of soil and groundwater contamination present on the FRR and adjacent properties. This assessment is intended to provide a representative database describing current site conditions for development of a comprehensive FRR facility remediation plan.

The scope of work includes locating, inspecting and assessing the underground piping, geophysical anomalies and inactive water supply wells at the facility, evaluating the affect historical site activities have had on soil and ground water quality including the Chicot Aquifer, and determining the extent of PSH. Investigative techniques will include historical file review, personnel interviews, review of historical aerial photography, geophysical surveying, test trenching/excavation and installation of soil borings, shallow monitor wells and deep monitor wells (screened in the Upper Chicot Aquifer) in order to provide a comprehensive assessment of contaminant source areas and the horizontal and vertical extent of contamination remaining at the facility.

Field activities and laboratory analysis will be conducted in accordance with requirements presented in Appendix B of the LDEQ RECAP document (October 2003). A Conceptual Site Model based on historical assessment activities and current site conditions is shown in Appendix A.

2.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1 Physical Setting

According to the Lafayette, Louisiana topographic map (USGS, 1983), the elevation of the FRR property is between 35 and 40 feet above mean sea level. The topography of the natural land surface in the vicinity of the property slopes to the southeast, towards the Vermilion River, which is located approximately ¾-mile to the southeast of the FRR property. The Vermilion River flows through Lafayette in a generally southwesterly direction.

2.2 Shallow Soil Geology

Based on a review of the Soil Survey of Lafayette Parish, Louisiana, the FRR property is underlain by soils classified as belonging to the Memphis silt loam, 0 to 1 percent slope, and the Coteau silt loam, 0 to 1 percent slope (Murphy et al, 1977).

The Memphis silt loam, 0 to 1 percent slope, is a nearly level soil on broad stream divides on the terrace upland in the eastern part of Lafayette Parish. Typically, the surface layer of the Memphis soil is medium acid, dark grayish brown silt loam approximately eight inches thick. To a depth of approximately 18 inches, the soil is very strongly acid, dark yellowish brown silty clay loam. To a depth of approximately 32 inches, it is strongly acid, dark brown silty clay loam; to a depth of approximately 53 inches, it is medium acid, dark brown silt loam; and to a depth of 82 inches or more, the soil is slightly acid, dark brown silt loam. The soil is moderate in fertility, and plant roots penetrate the soil easily. Water and air move at a moderate rate through the soil, and water runs off the surface at a medium rate. The seasonal high water table is at a depth of more than six feet (Murphy et al, 1977).

The Coteau silt loam, 0 to 1 percent slope, is a nearly level soil on broad, convex stream divides on the terrace upland in the northern and south-central parts of Lafayette Parish. Typically, the surface layer of the Coteau soil is medium acid, dark brown silt loam approximately 8 inches thick. To a depth of approximately 16 inches, the soil is strongly acid, dark brown silt loam. To a depth of approximately 26 inches, it is strongly acid, dark yellowish brown silty clay loam mottled with gray; to a depth of approximately 57 inches, it is medium acid, dark yellowish brown silt loam mottled with light brownish gray; and to a depth of 60 inches or more, the soil is slightly acid, dark brown silt loam with gray mottles. The soil is moderate in fertility, and plant roots penetrate the soil easily. Water and air move at a moderately slow rate through the soil, and water runs off the surface at a slow to medium rate. The seasonal high water table is at a depth of between 1.5 and three feet during December through April (Murphy et al, 1977).

Based on the results of numerous subsurface investigations (ERM, 2002; HETI, 1997; ERM, 2001; and G&M, 2000), soil borings located on the subject property have encountered fill material from the ground surface to a depth of up to eight feet below ground surface (bgs). The fill material consists of silty sand, crushed shells, sand, gravel and other fill materials (ERM, 2002). Beneath the fill material, the soil consists of brown or gray silty or sandy clay with intermittent sand lenses that extend from 10 to 15 feet bgs. Beneath this layer is a stiff, tight clay that extends to approximately 25 feet bgs.

Below the stiff, tight clay are alternating layers of clay, silty clay, sandy clay, and sand (ERM, 2002 and G&M, 2000). A sandy zone was encountered from approximately 28 to 32 feet bgs in one boring (ERM, 2001). A water-producing light gray silt layer was encountered from approximately 37 to 44 feet bgs in another boring, which may correspond to the top of the Chicot Aquifer (G&M, 2000).

2.3 Shallow Site Groundwater

Based on review of area topography and geology, shallow groundwater would be expected to be located less than 10 feet bgs at the subject property. Groundwater flow direction is generally a subdued reflection of site topography, but is also generally influenced by nearby major water bodies or by active water supply wells.

Based on depth to groundwater measurements recorded during performance of numerous subsurface investigations (ERM, 2002; HETI, 1997; ERM, 2001; and G&M, 2000), the depth to shallow groundwater varies significantly over the subject property and can be between one and 11 feet bgs. Based on these measurements, the shallow groundwater was interpreted to flow in a northerly to easterly direction.

Slug test data was used to calculate an estimated average hydraulic conductivity for the native material underlying the fill (ERM, 2002). The average hydraulic conductivity was estimated at 2.44×10^{-3} centimeters per second (cm/sec) or 6.9 feet per day (ft/d). Based on this hydraulic conductivity, a maximum sustainable yield of 597 gallons per day (gpd) was calculated (ERM, 2002). The reported level of total dissolved solids (TDS) in groundwater from this zone ranged from 401 milligrams per liter (mg/L) to 897 mg/L (ERM, 1998).

A second set of slug tests estimated an average hydraulic conductivity for the shallow groundwater zone of 16.9 ft/d (HETI, 1997).

2.4 Deeper Site Groundwater

Freshwater aquifers underlying southwestern Louisiana are a sequence of unconsolidated deltaic and near-shore marine sediments ranging in depth from surficial alluvial deposits of Holocene age to Miocene deposits located 3,000 feet bgs (Nyman, 1989). The sequence is divided into the following four major aquifers (in order of increasing depth):

- Atchafalaya Aquifer of Holocene and Pleistocene Age
- Chicot Aquifer System of Pleistocene Age
- Evangeline Aquifer of Pliocene and Miocene Age
- Jasper Aquifer of Miocene Age

The Atchafalaya aquifer is only present in the extreme eastern part of Lafayette parish, and is not located beneath the subject property (G&M, 2000).

The Chicot Aquifer System is a good source of potable water for both irrigation and domestic purposes in Southwest Louisiana and is characterized by its high permeability, recharge potential, and well yields. The sediments that form the aquifer system include clay, silt, coarse sand, and gravel (Nyman, 1989). The Chicot Aquifer

System has been subdivided into the "200-foot" sand, "500-foot" sand, and "700-foot" sand of the Lake Charles area, and into the "Upper Sand" and "Lower Sand" east of Lake Charles. The "500-foot" sand is an intermediate unit of the Chicot Aquifer System in the Lake Charles area and is poorly connected to Chicot units to the east and southwest (Nyman, 1989). The "200-foot" sand and the "Upper Sand" are hydraulically connected, as are the "700-foot" sand and the "Lower Sand" (Nyman, 1989). The "Upper Sand" unit occurs at depths of 50-60 feet bgs or more in Lafayette Parish (Jones et al, 1954 and Nyman, 1989). To confirm the depth to the top of the Chicot Aquifer, the *Preliminary Site Investigation Report* (Newfields, 2004) presented information from public sources that revealed the following:

- The top of the Chicot Aquifer is located at approximately 2 feet above sea level, approximately 38 feet bgs in the vicinity of the subject property (Nyman, 1984).
- The recorded water level in the Chicot Aquifer was approximately 13 feet below sea level, approximately 53 feet bgs in the vicinity of the subject property (Gentry, 1994); and,
- An electric log obtained for the North Water Plant water supply well # 16 indicated that the top of the Chicot Aquifer was located at sea level, approximately 40 feet bgs in the vicinity of the subject property (Williams, 1996).

In addition to this pubic information, information obtained from the Final Revised Risk-Based Closure Report issued by Arcadis Geraghty & Miller on February 7, 2000 provided the following information:

- "The top of the Chicot aquifer is encountered approximately 50 feet below land surface (ft bls) in Lafayette Parish (Jones et al 1954, Plate 4) with overlying sediments consisting of unconsolidated clay to silty clay sediments with local sand lenses."
- "One soil boring was installed during the 1993 assessment to identify the next lower groundwater zone beneath the water table. The boring, SB-1D, was completed to a depth of 44 ft bls. A water-producing silt layer was encountered at a depth of 37 feet. This layer may correspond to the top of the Chicot Aquifer."

Based on the information summarized above, the top of the Chicot Aquifer underlying the subject property area is located at approximately 37 feet below ground surface. Aquifers located below the Chicot Aquifer System in the vicinity of Lafayette Parish contain salt water (G&M, 2000). The Evangeline Aquifer, which directly underlies the Chicot Aquifer System, is composed of intercalated, thin bedded, fine to coarse sands and thick clays. The Evangeline Aquifer occurs at depths typically between 500 and 1,000 feet bgs in Lafayette Parish (Nyman, 1989).

2.5 Water Supply Wells

Review of Louisiana Department of Transportation and Development (LDOTD) 1-mile radius water well survey indicates the Chicot Aquifer is extensively used for water supply with the closest public water supply well located approximately 1,200 feet to the north-northwest of the former railroad property (Newfields, 2004). A total of 220 registered wells (water supply and monitor) were identified within the LDOTD database in the search area. The LDOTD water well survey is included in Appendix B for review.

Of the identified wells, there are two "active" industrial supply wells located on the former railroad property, with the owner identified as Southern Pacific Railroad. One of the industrial supply wells (Well 476) was identified at the location of the former water tower on the northwest corner of Johnston Street and S W Evangeline Thruway (John W. Stafford property). The second industrial supply well (Well 477) was identified near the current property boundary of the PMT facility and the Georgia Pacific facility. No records were available within the LDOTD files confirming these wells have been plugged and abandoned. In addition, neither well report indicates the casing was cemented in-place when installed. Therefore, it appears both wells have a potential to create a direct conduit for contaminated groundwater to discharge from the shallow water-bearing zone to the underlying Chicot Aquifer.

In 2006, Union Pacific submitted a Corrective Action Work Plan (CAWP) for the PMT Facility proposing the LDOTD coordinates for Well 477 are inaccurate since historical maps indicate rail lines are in the area. The CAWP proposed the alternative location for Well 477 is presented in the U.S. Geological Survey (USGS) database on property now occupied by the Meader's Kitchen Supply facility. However, a "pump house" is identified on UPRR historical drawings and the Old Round House (1912 and 1921 Sanborn Maps) is present in the central portion of the former PMT facility near the LDOTD coordinates. In addition, copper water lines were uncovered during soil remediation activities completed in October 2006. The abandoned copper water lines were oriented in a direction toward the "pump house" identified in old site maps and in the direction of the LDOTD location for Well 477. Thus, historical documents and field observations indicate the area identified by LDOTD well coordinates was occupied by railroad maintenance facilities prior to construction of rail lines. A water supply well could be expected in this area as a source for facility water and investigation of the area is included in this work plan.

The CAWP alternative location for Well 477 is proposed near the former "RR Powerhouse" as noted in the 1944 USGS data sheet. Historical aerial photography research by UPRR indicates this area is now the Meader's Kitchen Supply property. The CAWP does not propose further investigation of this area even though the area is a known area of soil and groundwater contamination. Because of the discrepancy in historical LDOTD and USGS documents and the age of the facility, this new location could be a third water supply well for the facility which has not been identified in historical investigations. Therefore, investigation of the area is included in this work plan.

3.0 FIELD ACTIVITIES

Field activities will be performed in accordance with the scope of work presented in the following sections. Based on the information presented in the historical reports and the potentially erroneous or incomplete conclusions many of these reports have presented, a comprehensive site investigation of all properties comprising the historical FRR property as well as adjacent properties is presented in this work plan. The investigative scope of work includes the following components:

- Geophysical Survey with Confirmatory Investigation
- Wooden Drain Investigation
- Water Supply Well Investigation
- Soil and Groundwater Investigation
- Supplemental Soil and Groundwater Investigation
- Aquifer Testing
- Groundwater Monitoring

Field activities will be documented in bound field logbooks which will be used to record sampling activities and provide a contemporaneous record of field events. Photographs of field activities will also be obtained to provide visual documentation of inspection and sampling activities.

3.1 Project Coordination

Prior to mobilization for field activities, the following steps will be taken to promote the coordination of personnel involved in the site investigation, address site access and promote site safety. These activities include:

- Coordinating the implementation of field activities with LDEQ representatives and a Louisiana licensed water well driller. LDEQ will be notified at least five (5) days prior to the commencement of field activities so that a LDEQ representative may be available to observe investigation activities.
- Obtaining site access agreements, if necessary.
- Notification of the current property owner and utility companies to allow the marking of all underground utilities on the site. Prior to any subsurface sampling, all underground utilities within 15 feet of the ground surface will be marked by Louisiana One Call.

All field work will be conducted in accordance with a Health and Safety Plan which will address H&S issues associated with site investigation activities including excavation, soil boring, monitor well installation, and sample collection activities.

3.2 Geophysical Survey with Confirmatory Investigation

A geophysical survey will be performed over the FRR property using magnetometry, electromagnetic, ground penetrating radar and/or other applicable geophysical technology. The geophysical survey is intended to identify and map subsurface geophysical anomalies caused by historical building foundations, pits, piping, underground utilities and backfilled drainage features.

Once geophysical surveying and data analysis is complete, a confirmatory investigation using test trenching will be implemented to identify the cause of subsurface geophysical anomalies. Test trenching will be completed using a trackhoe or other suitable excavation equipment and test trenches will extend vertically a minimum of two-foot into natural soil which visually appears to be unaffected by historical activities or to the top of the first saturated zone. A minimum of two soil samples will be collected from each test pit. The first soil sample will be collected from the side wall of the excavation and composed of material which appears to be the most contaminated based on visual observation and/or photoionization detector (PID) field screening results. If phase separate hydrocarbons are encountered during excavation activities, a sample of PSH will also be collected for laboratory analysis of parameters presented in Section 4.0. The second soil sample will be collected from the bottom of the excavation.

Underground pipelines identified in the survey will be exposed for visual inspection and an effort will made to determine the status (active vs. inactive) of the pipeline. Each pipeline will be inspected for leakage. Pipelines that are deemed inactive and appear to be associated with historical railroad operation will be tapped to obtain a sample for laboratory analysis and evaluated as a continuing source of soil and groundwater contamination.

3.3 Wooden and Earthen Drain Investigation

The results of geophysical surveying will be compared to historical aerial photography to further delineate the extent and location of the wooden and earthen drains. The drains have been identified in the northern portion of the FRR property and extend southward through the central portion of the FRR property.

Test trenching will be used at select locations to:

- Verify the presence of the wastewater drains,
- Evaluate the presence of contaminants and PSH in backfill material and surrounding soil, and
- Determine the potential for the drainage system to act as an on-going source area as well as a preferential pathway for off-site contaminant migration.

Test trenching will be completed using a trackhoe or other suitable excavation equipment and test trenches will extend vertically a minimum of two-foot into natural soil which visually appears to be unaffected by historical activities or to the top of the

first saturated zone. A minimum of two soil samples will be collected from each test pit. The first soil sample will be collected from the side wall of the excavation and composed of material which appears to be most contaminated based on visual observation and/or photoionization detector (PID) field screening results. The second soil sample will be collected from the bottom of the excavation to evaluate the vertical extent of contamination in the area. If PSH is encountered during excavation activities, a sample of PSH will also be collected for laboratory analysis of parameters presented in Section 4.0.

3.4 Water Supply Well Investigation

Two industrial water supply wells were identified within the FRR property limits by the Louisiana Department of Transportation and Development (LDOTD) water well registration database, and a third well location is identified in the U.S. Geological Survey (USGS) database. The wells are located on FRR property in the following areas:

- J. W. Stafford Property (LDOTD Well 476),
- PMT Facility (LDOTD Well 477) near the current property boundary of the PMT facility and the Georgia Pacific facility, and
- Meader's Kitchen Supply (USGS database)

Locating and assessing the status of these historical water supply wells will be the primary task of this phase of the investigation. A second task in the water supply well activity is to complete a survey of residences and businesses within three blocks of the perimeter of the FRR property to determine if any unregistered water supply wells exist in the area surrounding the facility and are being used by local residences or businesses.

3.4.1 Location

The initial task will be to locate the water supply wells at the FRR facility. Because the pump houses and water towers adjacent to the former water supply wells have been dismantled and the well cut-off, there is no surface expression of the water supply wells. To locate the water wells, the following procedures will be implemented.

- Site Inspection: Perform site walkover to identify any surface features which may indicate the historical location of the well.
- Historical Records Review: Obtain and review from the railroad any historical records regarding the location, operation, maintenance, water quality and decommissioning of the former water supply well.
- Personnel Interview: Interview current and former employees of the railroad and commercial facilities to obtain information on well location and decommissioning.

- Aerial Photography: Obtain and review historical aerial photography which has been geo-referenced to determine coordinates of former pump houses and water towers.

- Geophysical Surveying: Implement a geophysical survey of potential well locations using magnetometry, electromagnetics and/or ground penetrating radar.

- Excavation: Once possible well locations have been identified, excavation equipment will be utilized to remove the pavement and fill material and determine the presence of the former water supply well. Prior to excavation, the current property owner and the utility companies will be notified to allow the marking of all underground utilities on the site. Prior to any excavation, all underground utilities within 15 feet of the ground surface will be marked by Louisiana One Call.

Once the wells have been located, excavation equipment will be used to clear material away from the top of the casing, and a sufficient amount of pavement and fill material will be removed from around the well casing for inspection.

3.4.2 Inspection and Sampling

Inspection of the well condition will be performed once excavation is complete and groundwater sampling will be performed after the well has been opened and inspected. Well inspection will be focused on determining whether the well was plugged and abandoned in accordance with LDOTD Water Well Regulations and evaluating the potential for the well to act as a conduit for contamination identified in shallow soils and groundwater to migrate directly to the Chicot Aquifer.

Well Inspection will include:

- Visual inspection of the grout sealing the annular space between the casing and borehole. The grout will be inspected for cracking, void spaces and shrinkage, all of which may provide a vertical conduit for contamination to migrate to deeper intervals.

- Removal of the well cover to inspect the interior of the casing. During removal of the well cover, a photoionization detector (PID) will be used to monitor headspace within the well casing to evaluate the presence of organic vapors in the well.

- Inspection of the interior well casing to determine the presence of grout used in the plug and abandonment process to seal the well casing. Grout filling the casing, if present, will be inspected for fractures, void spaces and shrinkage. If no grout is encountered in the well casing, a visual inspection of the interior wall of the casing will be performed to identify corrosion or breaches in the casing.

If the former water supply well does not appear to have been properly plugged and abandoned, the following inspection and sampling activities will be completed.

- The total depth of the well and the depth to water will be determined using an interface probe designed to detect PSH in the water column. In the event obstructions are encountered in the well, a weighted tape may be used to determine the total depth of the well.

- Groundwater samples will be collected at several depths within the water column. Although sampling depths will be dependent upon site conditions, at a minimum, groundwater samples will be collected from immediately below the water/air interface and at a depth equivalent to the mid-point of the screened interval or at the base of the water column in the well. Additional samples may be collected from intermediate depths within the water column. In the event PSH is encountered, a sample of the PSH material will also be collected for laboratory analysis. Samples will be collected and analyzed following procedures outlined in Sections 3.5.2 and 4.0.

- Video inspection of the well casing to the total depth of the well will be performed to identify any corrosion or breaches in the well casing which could serve as conduits for vertical migration of contaminants.

Once inspection and sampling activities are complete, the LDOTD and LDEQ will be notified regarding the abandonment condition of the water supply well and groundwater quality.

3.4.3 Neighborhood Survey

As part of the water supply well investigation, a door to door survey of residences and businesses will be conducted within a three block perimeter of the FRR property to determine if any domestic water supply wells are currently being used. Since the residential and business development of this area pre-dates the LDOTD water well registration requirements, water wells servicing individual residences/ businesses may never have been registered with LDOTD and consequently not included in the LDOTD water well database.

Any wells identified in this survey will be sampled for indicator constituents as part of the site investigation process.

3.5 Soil and Groundwater Investigation

A comprehensive soil and groundwater investigation of the FRR property and surrounding properties is included in this workplan to assess the affect of historical railroad activities on soil and groundwater. This investigation will include the following activities:

- Install and sample soil borings at locations identified as potential environmental contamination source areas to determine the horizontal and vertical extent of soil contamination and PSH.

- Install and sample one shallow monitor well at each soil boring location for characterization of shallow groundwater quality.
- Install soil borings and monitor wells on surrounding properties to assess if on-site contamination has migrated off-site.
- Install 30 surface-cased monitor wells within the top of the Chicot Aquifer to assess if historic site operations have impacted the aquifer. Deep monitor wells will be located based upon the results of shallow soil and groundwater sampling results.

Proposed sampling locations for the estimated 200 soil borings and shallow monitor wells are shown on Figure 4.

3.5.1 Soil Sampling

An estimated 200 soil borings will be advanced to a depth of up to 20 ft bgs via direct push or hollow stem auger drilling techniques. Soil borings and subsequent monitor wells will be installed in accordance with guidelines established in the LDEQ and LDOTD *Construction of Geotechnical Boreholes and Ground water Monitoring Systems Handbook* and the LDOTD *Water Well Rules, Regulations, and Standards*.

Soil samples will be collected continuously on two-foot intervals to ensure proper logging of materials encountered and to allow sampling of discrete intervals in the sediment column. Samples will be described in the field and the description will include a lithological description and identification of any notable features such as odors, staining, sedimentary structures and/or variations in sand, silt or clay content. A representative portion of each sample will be carefully trimmed to remove the smear zone formed during sample acquisition and split into two portions. One portion will be placed in a sample container, appropriately labeled and cooled to 4°C. The remaining portion will be placed in a glass container and allowed to sit at ambient conditions for a period of 15 minutes before being field screened with a photoionization detector (PID) to evaluate the presence of volatile organic indicator constituents.

Three soil samples will be retained for laboratory analysis from each borehole. Sampling intervals will be:

- Soil interval with the highest PID measurement.
- Soil interval from the soil-groundwater interface.
- Total depth of the boring.

If all samples register background on the field screening instrument or provide no indication of impact, the interval most likely to be impacted (fill material) shall be retained for laboratory analysis along with the soil sample from the total depth of the boring. The analytical results of these samples will be reviewed to determine the necessity for supplemental analysis of soil samples using Synthetic Precipitation Leaching Procedure (SPLP) Method.

All soil samples will be collected into laboratory supplied containers, labeled with a unique identification number, and immediately placed in an ice chest with sufficient ice to cool the sample to 4°C. At a minimum, the sample label will include sample number, date, time, sample location, sampler's name, sample type, analysis to be performed and preservatives used. Clean latex gloves will be worn during soil sampling to promote sample integrity and dermal protection. Samples selected for laboratory analysis will be shipped to the laboratory via express delivery following full chain of custody procedures.

3.5.2 Ground Water Sampling

Upon completion of soil sampling activities, each borehole will be converted to a shallow monitor well for groundwater sampling. Monitor wells will be constructed of 2-inch diameter PVC. The screened portion of the monitor well will be composed of 0.010-inch slotted PVC and will not exceed ten feet in length. The remaining portion of the monitor well will be composed of an appropriate length of PVC riser. Surface casing will be used as necessary during deep monitor well installation to isolate intervals of affected soil and/or PSH from the deeper soil zones and groundwater.

Sampling procedures to be used in the collection of ground water samples from monitor wells are:

- Each monitor well will be purged until three casing volumes have been removed, or the well has been purged dry. The well will then be allowed to recharge prior to sampling.
- For non-volatile constituents, a peristaltic pump with new tubing will be used to collect groundwater samples. For volatile constituents, a dedicated PVC bailer or peristaltic pump set to the minimum flow rate will be used for sample collection.
- In the event groundwater samples appear turbid at time of collection, samples collected for inorganic analysis (i.e. metals) will be analyzed for both total and dissolved concentrations. When sampling for total and dissolved inorganics, the appropriate analytical method criteria for sample collection and preservation shall be followed.
- All groundwater samples will be collected into laboratory supplied containers, labeled with a unique identification number, and immediately placed in an ice chest with sufficient ice to cool the sample to 4°C. At a minimum, the sample label will include sample number, date, time, sample location, sampler's name, sample type, analysis to be performed and preservatives used. Clean latex gloves will be worn during sampling to promote sample integrity and dermal protection.

Samples selected for laboratory analysis will be shipped to the laboratory via express delivery following full chain of custody procedures.

3.6 Supplemental Soil and Groundwater Investigation

A supplemental on-site and off-site investigation is presented in this section to complete delineation, as necessary, of contaminated areas identified in the initial soil and groundwater investigation (Section 3.5). The scope of supplemental investigation activities is assumed to include the following:

- Install and sample supplemental soil borings (estimated 50 borings) in on-site and off-site areas requiring further delineation of contamination.
- Install and sample supplemental shallow monitor wells (estimated 25 monitor wells) in areas requiring further delineation of groundwater contamination.
- Install ten supplemental surface-cased monitor wells within the Chicot Aquifer to assess extent of aquifer contamination. Supplemental deep monitor wells will be screened with varying intervals to assess the vertical extent of contamination.

Supplemental soil and groundwater investigation activities will be completed following procedures outlined in Section 3.5. Sample locations will be selected once laboratory analytical results have been reviewed and areas requiring further delineation have been identified.

3.7 Aquifer Testing

Aquifer testing to determine the physical characteristics (i.e. hydraulic conductivity) of the shallow saturated zone and the Chicot aquifer is proposed in this work plan. To characterize the shallow groundwater interval, six representative shallow monitor wells will be selected for slug testing. Selected wells will be located throughout the FRR facility to provide a comprehensive assessment of aquifer characteristics.

Pump tests will be completed on three deep monitor wells screened within the Chicot Aquifer to determine aquifer characteristics. It is anticipated that the pump test will be completed over a minimum period of 24-hours. Laboratory analytical results of groundwater samples from each well to be pump tested will be reviewed to determine the regulatory status of discharge water and evaluate the necessity for treatment of discharge water to remove contaminants prior to discharge to the facility stormwater drainage system.

3.8 Groundwater Monitoring

Semi-annual groundwater monitoring is included in this work plan to assess groundwater quality in both the shallow groundwater zone and the deeper Chicot Aquifer over a period of two years. Samples will be collected following procedures outlined in Section 3.5.2 and analyzed for parameters outlined in Section 4.0.

3.9 Decontamination Procedures

All borehole installation and soil/groundwater sampling equipment will be carefully decontaminated prior to beginning work and prior to demobilizing from the facility. All downhole equipment such as augers, rods and the center plug will be decontaminated between boreholes. All sampling equipment will be decontaminated after each use. Decontamination of drilling equipment will include pressure washing to remove soil and contaminants. Decontamination of sampling equipment will be completed using a Liquinox and water solution with a distilled water rinse. When possible, dedicated single use equipment will be used to minimize the potential for cross contamination of samples.

All investigation derived wastes (cuttings, purge water, etc.) will be collected and disposed in accordance with applicable LDEQ rules and regulations.

3.10 Plugging and Abandonment of Boreholes/Monitor Wells

Upon completion of ground water sampling activities, monitor wells may be plugged and abandoned or the wells may be registered as monitor wells with the LDOTD and remain in-place for future groundwater monitoring activities. All plugging and abandonment activities, if implemented will be conducted in accordance with the latest version of the LDEQ and LDOTD *Construction of Geotechnical Boreholes and Groundwater Monitoring Systems Handbook* and the LDOTD *Water Well Rules, Regulations, and Standards.*

3.11 Site Map Development

At the conclusion of field activities, a survey of the site will be completed to locate all monitor wells in relation to permanent structures in the area. These measurements will be used to develop a scaled map of the site for incorporation into the investigation report. In addition, the elevation of the top of casing referenced from either a permanent or temporary benchmark established at the site will be determined to the nearest 0.01 foot for use in obtaining potentiometric data and delineating the groundwater flow direction in the shallow groundwater zone and the Upper Chicot Aquifer.

4.0 ANALYTICAL TESTING

All laboratory analyses shall be conducted in accordance with EPA SW-846, Test Methods for Evaluating Solid Waste and other pertinent EPA methods. All laboratory analyses will be completed with detection limits below RECAP screening standards. Laboratory analyses will be completed by a LDEQ certified laboratory.

Soil, groundwater and PSH samples will be analyzed for:

- 13 Priority Pollutant Metals (Method 6010/7471)
- TPH-Gasoline (Method 8015B)
- TPH-Diesel and TPH-Oil (Method 8015B)
- Volatile Organic Compounds (Method 8260)
- Semi-Volatile Organic Compounds (Method 8270)

As part of Volatile and Semi-Volatile Organic Analysis, Tentatively Identified Compounds will be included in the laboratory analytical report.

In the event groundwater samples are turbid, samples collected for inorganic analysis will be analyzed for both total and dissolved concentrations. Quality assurance/quality control (QA/QC) samples will be collected according to RECAP guidelines. Based on the analytical program described above, the following QA/QC samples will be collected.

- One trip blank will be collected for every ice chest containing volatile samples.
- One soil duplicate and one groundwater duplicate per 20 samples.
- One soil rinsate and one groundwater rinsate per 20 field samples.
- One soil matrix spike/matrix spike duplicate (MS/MSD) and one groundwater MS/MSD per 20 field samples.
- One groundwater field blank per day.

5.0 REPORT PREPARATION

A site investigation report will be prepared to document site investigation activities and analytical testing described in this work plan. The report will be prepared in accordance with LDEQ RECAP guidance. A general outline for the report is presented below:

- Title Page including Facility Address and Agency Interest (AI) Number
- Executive Summary
- Table of Contents
- Site History
- Emergency / Interim Corrective Action
- Investigation Description
- Migration Pathways and Sensitive Receptors
- RECAP Evaluation Results
- Summary of Findings
- Recommendations
- References
- Figures
- Tables
- Appendices
  - Conceptual Site Model
  - Boring Logs/Monitor Well Construction Diagrams
  - LDOTD Water Well Survey
  - Aquifer Test Data with Calculations
  - RECAP Evaluation Calculations
  - Signed Certifications for QA/QC, TS&A and H&S *Plans*
  - Lab Analytical Report/Signed Chain of Custody Forms

Once completed, the report will be submitted for review and comment. Once comments are received, the document will be amended to incorporate comments and finalized.

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TABLES

Former Railroad Facility
Lafayette, Louisiana

TABLE 1

Potential Environmental Contamination Source Areas

Former Railroad Facility
Lafayette, Louisiana

Far North Property

- Battery House
- Signal Repair Shop
- Water Tank
- Blacksmith Shop Oil
- House Stock Pens
- Tank
- Oil House
- 4-inch Diameter Fuel Line
- 10,000-gallon Diesel Underground Storage Tank (UST)
- Diesel/Water Cranes
- Ice Facility
- Crude Oil Tanks
- Brake Shop
- Freight Depot Warehouse
- Stock Barn Water Tank
- 10,000-gallon Diesel Rail Car AST
- Railroad Tracks

Southern Pacific Transportation Company (Johnston Street Site)

- Warehouse Stock Barn
- Lumber Bldg w/ Wood Drains
- B&B Shop
- Two 12,500-gallon Diesel Rail Car ASTs
- Lumber Piles
- Two Oil Houses
- 4-inch Diameter Fuel Line
- Railroad Tracks

John W. Stafford

- Paint Shop
- Water Tower
- Plating Shop Water Supply Well

P.J.A. Properties, Inc. (Azar)

- Newer Roundhouse
- Reservoir Railroad Tracks
- Hot Water Tank
- 4-inch Diameter Fuel Line

Pacific Motor Transport Company (PMT Facility)

- Diesel/Water Cranes
- Sand House/Machine Shop
- Inspection Pit Oil Tank
- Unidentified Tank Battery
- Old Roundhouse Engine
- Wash Rack Machine
- Shop/Truck Repair Oil Storage
- Oil/Water Separator
- 4-inch Diameter Fuel Line
- Oil House
- Pit
- Oil/Water Cranes
- Unidentified Tank
- Machine Shop
- 20,000 gallon Diesel UST

TABLE 1 (continued)

Potential Environmental Contamination Source Areas

Former Railroad Facility
Lafayette, Louisiana

Georgia Pacific Site

Unidentified Tank	Car Shop
4-inch Diameter Fuel Line	2,000-gallon Diesel UST
1,000-gallon Diesel UST	30,000-barrel Fuel Oil AST
Railroad Tracks	

Conco Food Distributors

Car Shop	Oil Pump House
35,000-barrel Fuel Oil AST	Stock Pens
Railroad Tracks	4-inch Diameter Fuel Lines

Note: If the subsurface fuel dispensing lines leading from the bulk storage facilities to fueling cranes (approximately 4,200 linear feet) were not purged and/or removed from the subject property during site decommissioning activities, approximately 2,700 gallons of fuel could have remained within these lines. If fuel remained within these lines, the fuel could be slowly releasing to the environment or could have already been released to the environment.

FIGURES

Former Railroad Facility
Lafayette, Louisiana

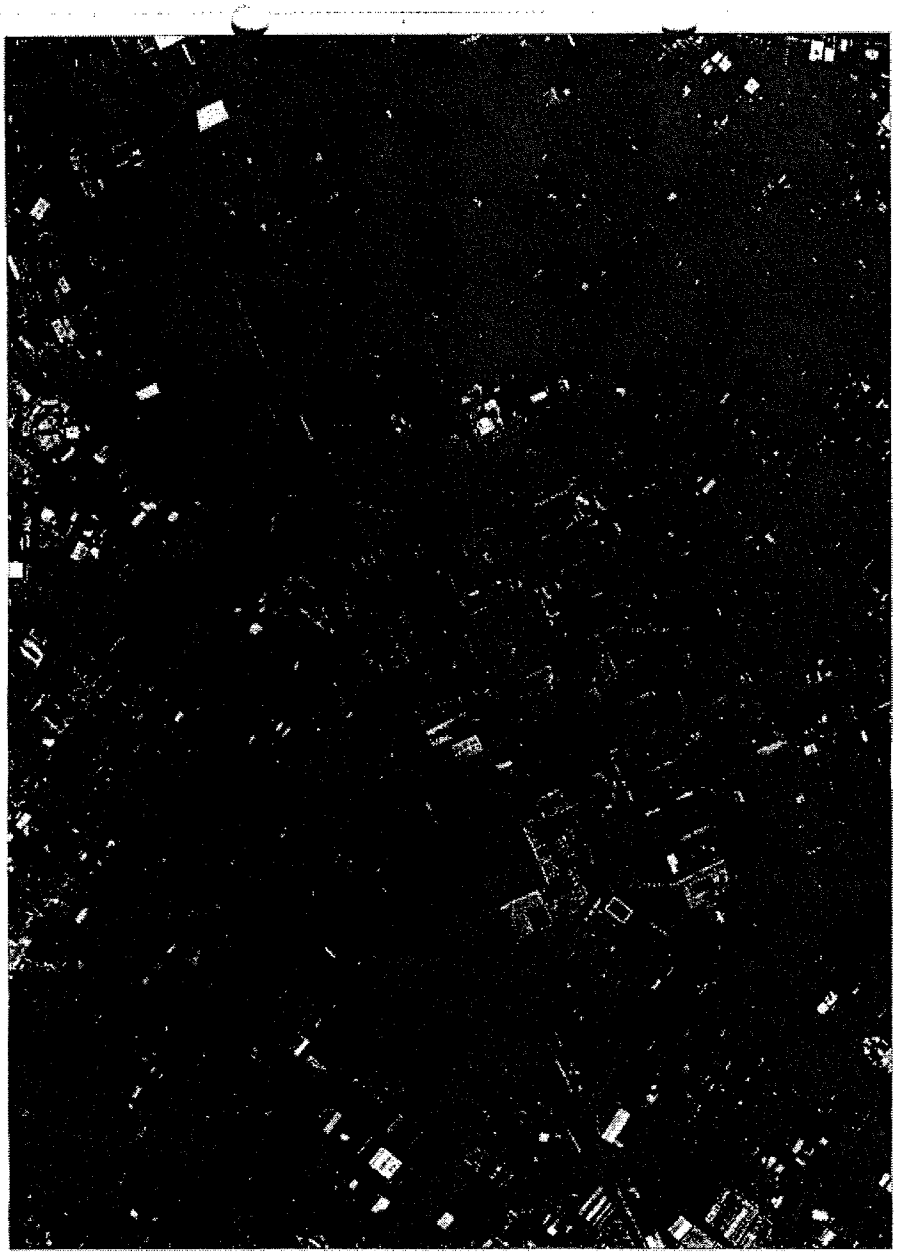
BEST COPY OF THE NEXT 04 PAGES

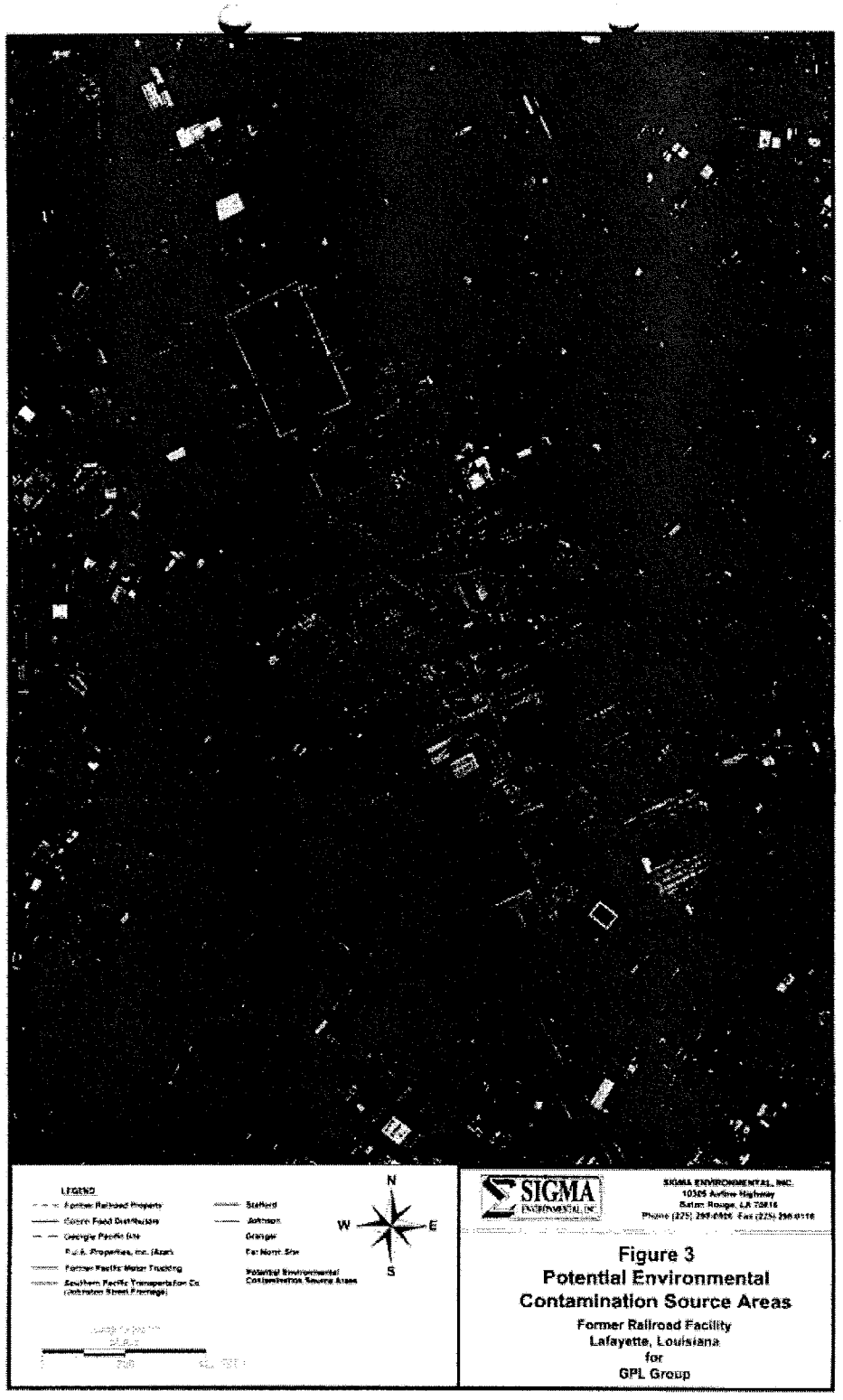
SCALE: 1" = 2000'
APPROXIMATE

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
LAFAYETTE, LOUISIANA - DATED 1963
BROUSSARD, LOUISIANA - DATED 1969

SIGMA ENVIRONMENTAL, INC.

Figure 1
Vicinity Map
Former Railroad Facility
Lafayette, Louisiana
for
GPL Group


LEGEND
Former Railroad Property
Conco Food Distributors
Georgia Pacific Site
E.J.A. Properties, Inc. (Azar)
Former Pacific Motor Trucking
Southern Pacific Transportation Co. (Johnston Street Frontage)
Stafford
Johnson
Granger
Far North Site
Source: Gulf Coastal Aerial Mapping Co.
N
Scale: 1" = 320'
Figure 2
Site Plan
with Property Boundaries
Former Railroad Facility
Lafayette, Louisiana
for
GPL Group
SIGMA


LEGEND
Former Railroad Property
Coca-Cola Distributing
Georgia Pacific Site
R.E.S. Properties, Inc. (Acer)
Former Pacific Motor Trucking
Southern Pacific Transportation Co. (Johnston Street Frontage)
Stafford
Johnson
Grainger
Far Horne Site
Potential Environmental Contamination Source Areas
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W
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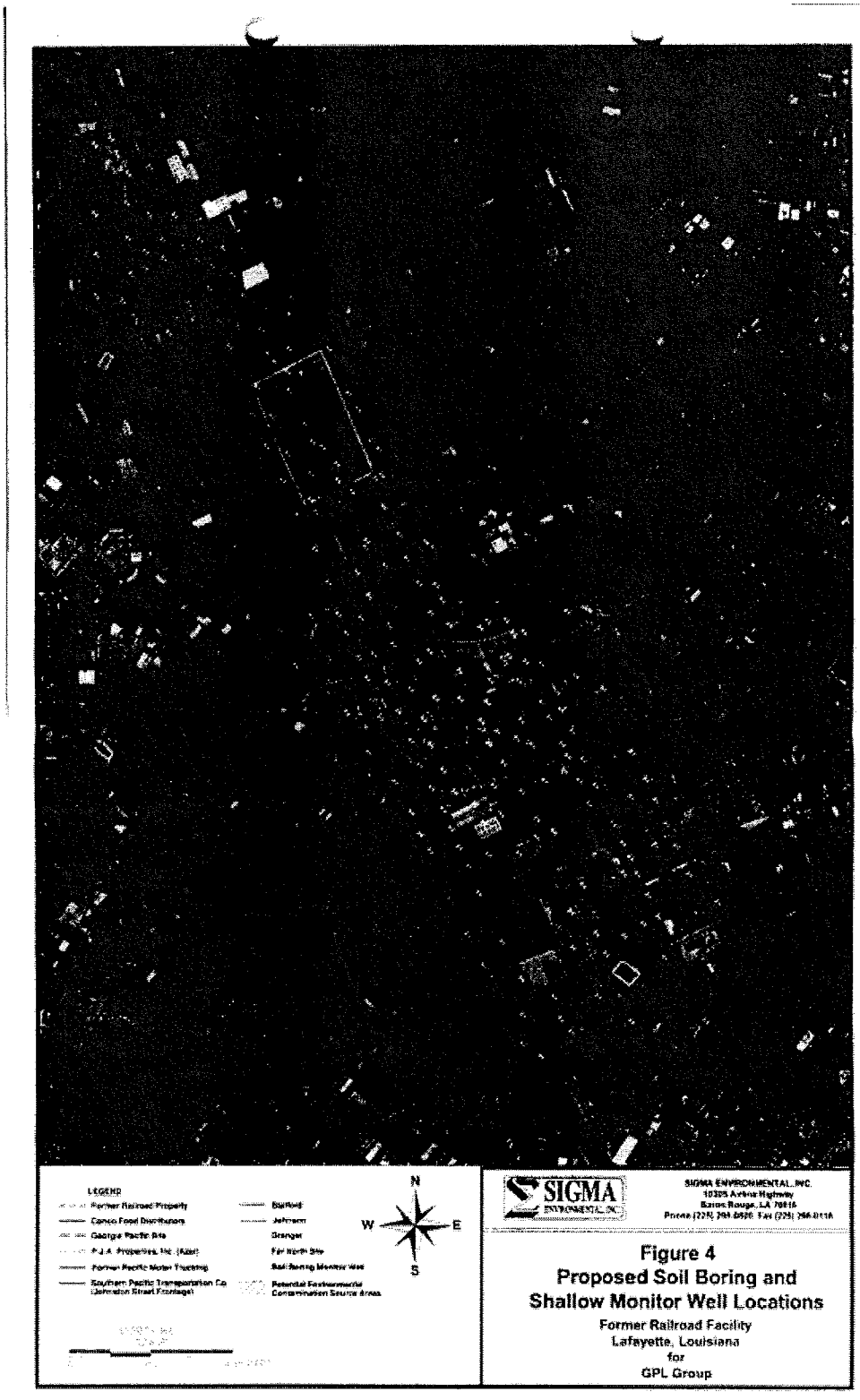
S
SIGMA ENVIRONMENTAL, INC.
10325 Airline Highway
Baton Rouge, LA 70816
Phone (225) 293-0909 Fax (225) 293-0910
Figure 3
Potential Environmental
Contamination Source Areas
Former Railroad Facility
Lafayette, Louisiana
for
GPL Group


LEGEND
Former Railroad Property
Conco Food Distributors
George Pacific Site
P.J.A. Properties, Inc. (Kost)
Former Pacific Motor Trucking
Southern Pacific Transportation Co (Johnston Street Frontage)
Railroad
Johnson
Granger
Far North Site
Sentinel Monitor Well
Potential Environmental Contamination Source Areas
N
W
E
S
SIGMA ENVIRONMENTAL, INC.
10325 Arbor Highway
Baton Rouge, LA 70816
Phone (225) 293-5525 Fax (225) 293-5526
Figure 4
Proposed Soil Boring and
Shallow Monitor Well Locations
Former Railroad Facility
Lafayette, Louisiana
for
GPL Group

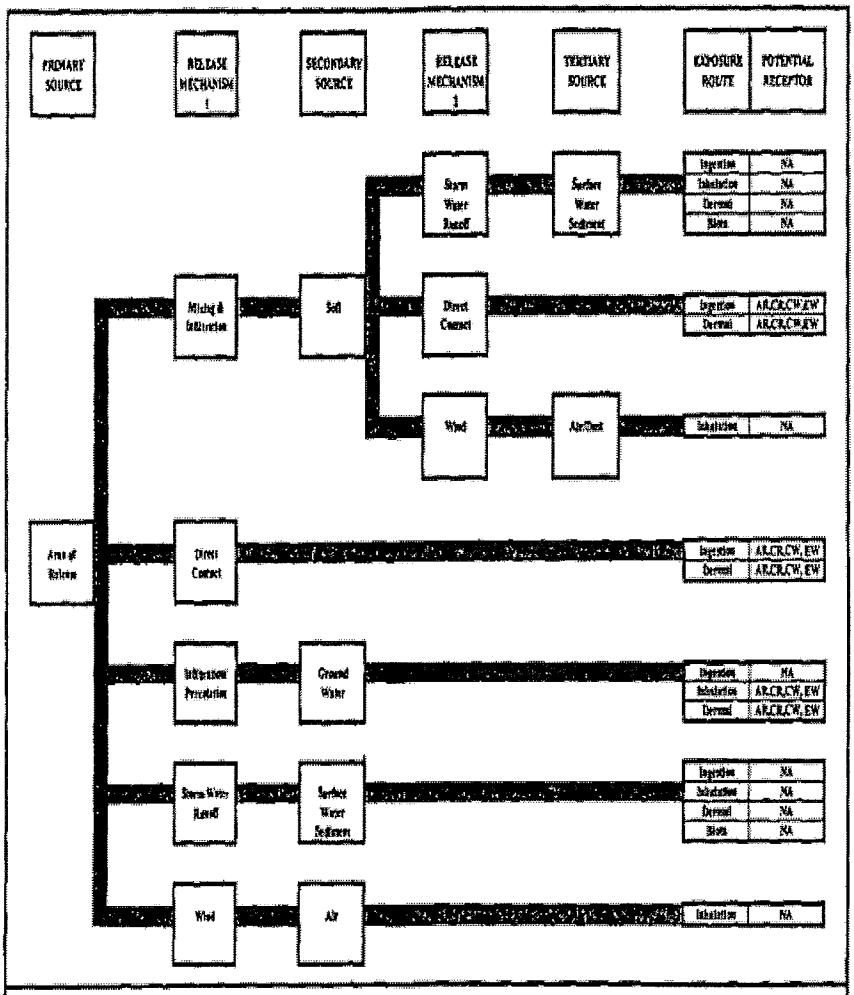
APPENDICES

Former Railroad Facility
Lafayette, Louisiana

Conceptual Site Model

Appendix A

Former Railroad Facility
Lafayette, Louisiana



NOTES:
CW = CONSTRUCTION WORKER
EW = ENVIRONMENTAL WORKER
IW = INDUSTRIAL/COMMERCIAL WORKER
AR = ADULT RESIDENTIAL
CR = CHILD RESIDENTIAL
NA = NOT APPLICABLE

FIGURE A-1

CONCEPTUAL SITE MODEL

FORMER RAILROAD FACILITY
Lafayette, Louisiana

for GPL Group